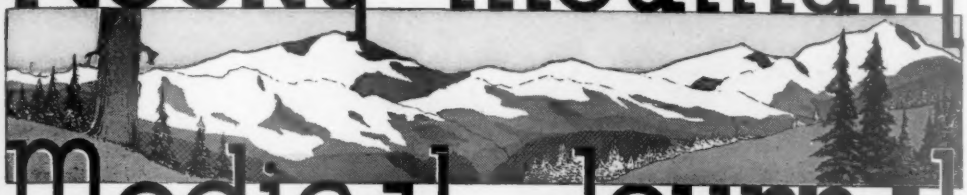
Rocky Mountain Medical Journal



Program
New Mexico
Medical Society

April 1952

Vol. 49—No. 4
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SYMPOSIUM ON LUPUS ERYTHEMATOSUS
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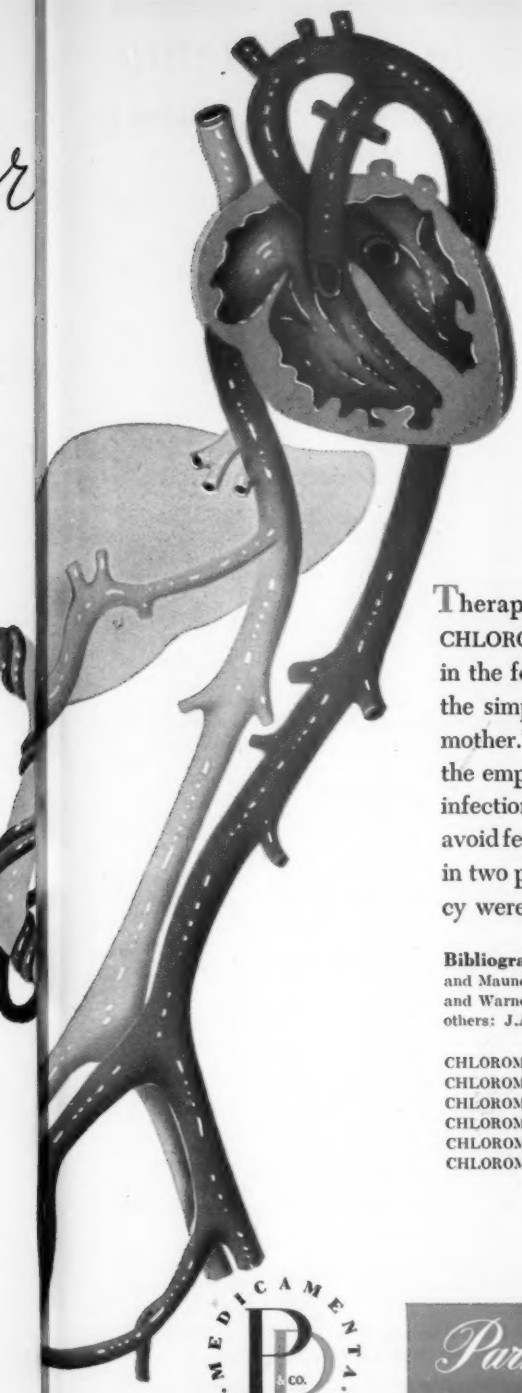

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Bibliography: (1) Stevenson, C. S.; Glazko, A. J.; Gillespie, E. C., and Maunder, J. B.: J.A.M.A. *146*:1190 (July 28) 1951. (2) Scott, W. C., and Warner, R. F.: J.A.M.A. *142*:1331 (April 29) 1950. (3) Ross, S., and others: J.A.M.A. *142*:1331 (April 29) 1950.

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VOLUME 49 **NUMBER 4**

APRIL, 1952

ROCKY MOUNTAIN MEDICAL JOURNAL

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Publication Office:
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Ownership and Sponsorship: The Rocky Mountain Medical Journal is owned by the Colorado State Medical Society and is published monthly as a non-profit enterprise for the mutual benefit of the organizations which jointly sponsor it. It is published under the direction of the Board of Trustees of the Colorado State Medical Society, assisted by an Editorial Board representing the sponsoring organizations. It is the Official Journal of the Colorado State Medical Society, the Montana Medical Association, the New Mexico Medical Society, the Utah State Medical Association, the Wyoming State Medical Society, the Rocky Mountain Medical Conference, and the Colorado Hospital Association.

Manuscripts: Scientific Articles, Case Reports, etc., from any state for which this is the Official Journal should be submitted to the Scientific Editor for that state as named in the Editorial Board, above. Other material from any participating state should be submitted to the Associate Editor for that state as named above. Manuscripts from outside the Rocky Mountain area should be sent direct to the Journal office. Manuscripts must be typewritten, double or triple spaced, using only one side of each sheet. It is the policy of this Journal to omit bibliographies.

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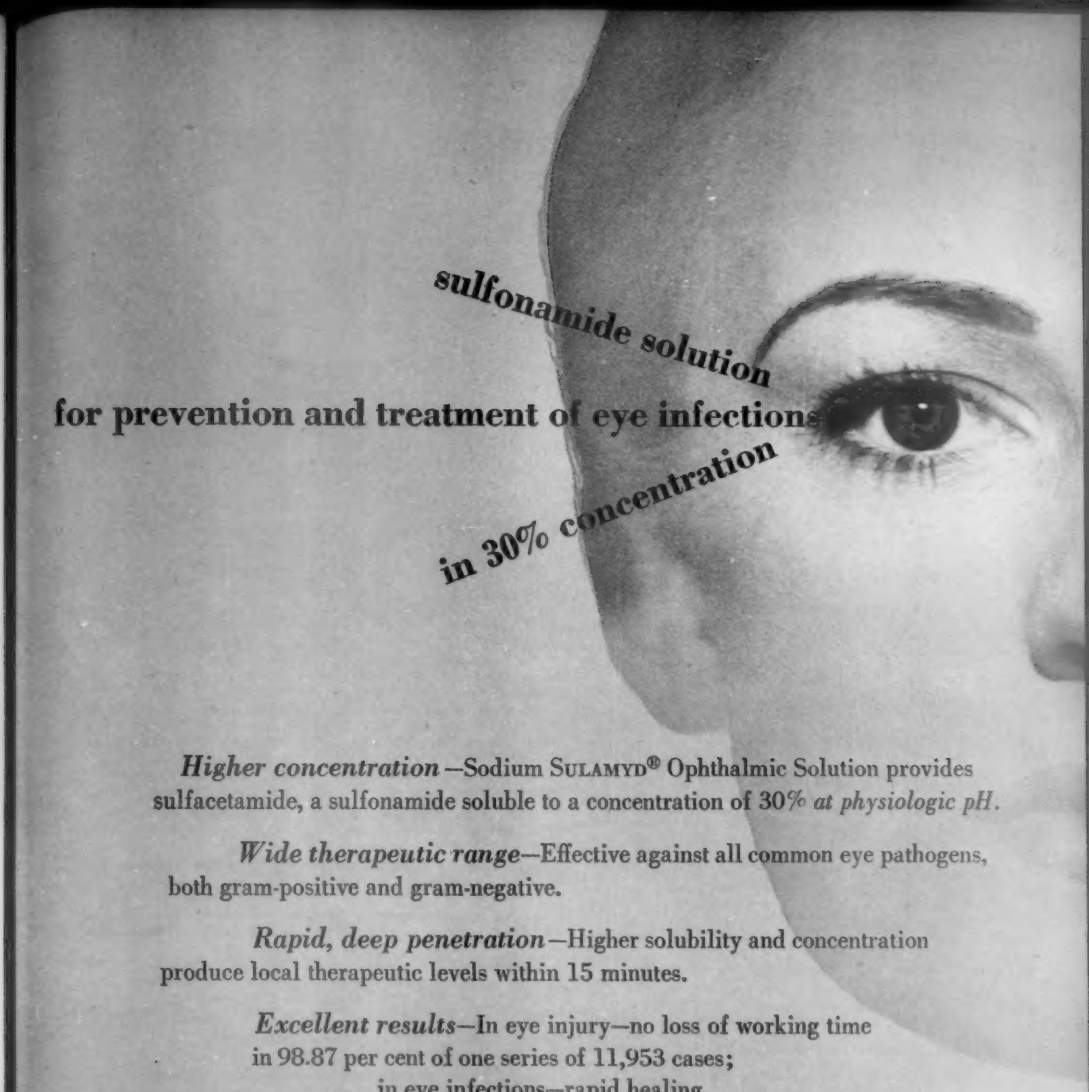

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NEXT ANNUAL SESSION, SALT LAKE CITY, SEPTEMBER 4, 5, 6, 1952

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During Pregnancy

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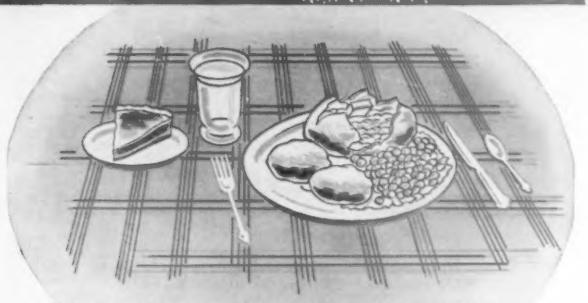

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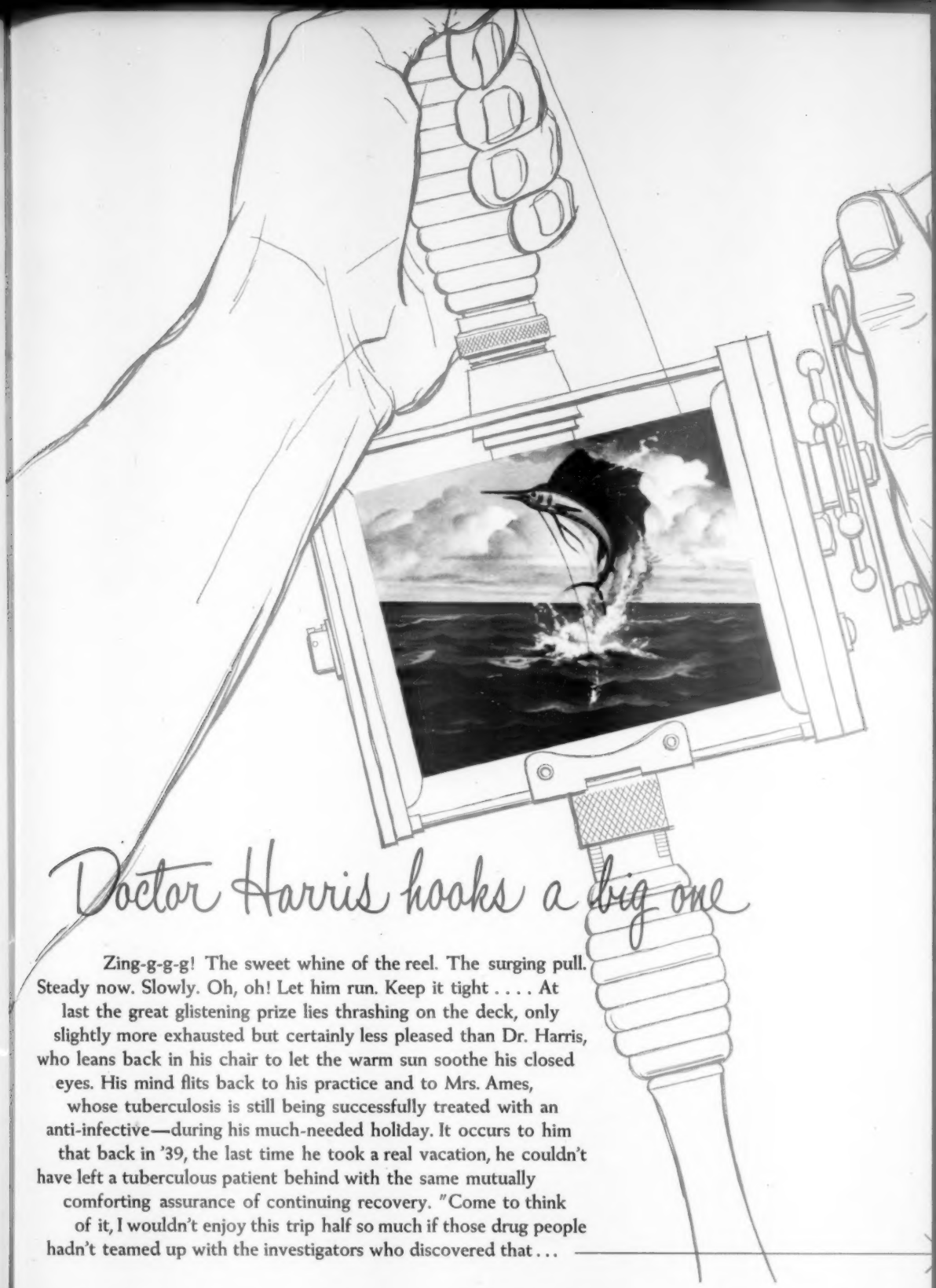
Resolutions: Sister Mary Raymond, Mercy Hospital, Denver; James A. Harrison, Community Hospital, Boulder.



Doctor Harris hooks a big one

Zing-g-g-g! The sweet whine of the reel. The surging pull. Steady now. Slowly. Oh, oh! Let him run. Keep it tight . . . . At last the great glistening prize lies thrashing on the deck, only slightly more exhausted but certainly less pleased than Dr. Harris, who leans back in his chair to let the warm sun soothe his closed eyes. His mind flits back to his practice and to Mrs. Ames, whose tuberculosis is still being successfully treated with an anti-infective—during his much-needed holiday. It occurs to him that back in '39, the last time he took a real vacation, he couldn't have left a tuberculous patient behind with the same mutually comforting assurance of continuing recovery. "Come to think of it, I wouldn't enjoy this trip half so much if those drug people hadn't teamed up with the investigators who discovered that . . .

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Rocky Mountain Medical Journal
Colorado
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APRIL
1952

Editorial

Adequate Pay for Institutional Help—A Sound Investment

AMPLE evidence demonstrates that not enough physicians, especially young ones, are interested in positions and institutions which currently most need them. Small communities beg for doctors; residency training programs are not fully staffed; general hospitals are without sufficient interns; institutions cannot fill essential salaried positions. For example, the Colorado State Hospital at Pueblo has over five thousand patients, nearly two thousand of whom may be curable. Cure is largely dependent upon adequacy of the psychiatric staff, which is far too small. Two large general hospitals in this region recently failed to obtain any new interns to replace those whose services are ending.

Perpetrators of governmental health schemes have contended that costs of medical care are too high. They talk of the size of the patient-day hospital account and of the size of doctor bills. They do not readily admit that the costs of medical care have not increased with the general cost of living and devaluation of the dollar. State officials and representatives of the people in law making assemblies are reluctant to increase salaries to young doctors so that adequately trained personnel will staff our public medical institutions. The day is passed when full time medical men can be commanded for room, board, and pocket money. Value of experience and prestige of certain staff affiliations no longer serve as a full substitute for cash.

The present younger generation of physicians has married early, young families are being reared, and economic demands are overwhelming. And no one has confidence regarding permanence of the prevailing financial heyday.

Regardless of reasons behind it, training programs and resident house staffs cannot be allowed to fall apart. Catastrophe may be averted only by payment of salaries commensurate with competitive demands of all medical institutions and with at least average remuneration in private practice. Decent living and rearing of families now entail unprecedented minimum financial demands. Governors and civil service commissions must realize that there is no economy in crowding institutions with patients who could be cured and discharged if more and better treatment were available. States, teaching institutions, churches, and others who operate general hospitals must maintain resident medical staffs which safely and efficiently serve the needs of those institutions. Somehow it must be done, even if our profession and hospitals which serve us seem thereby at last, but reluctantly, to add a bit of fuel to flames of inflation.

The Genesis of Carcinoma

THE leading article in the first J.A.M.A. of March is entitled "Brochogenic Carcinoma." The article is based upon statistics covering several decades. There has been dramatic increase in carcinoma of the respiratory system coincidental with increasing popularity of smoking. Causal relationship between tobacco and cancer is undoubted by the majority, if not all, of us who deal with malignant neoplasms. Statistics indicate that during the decade 1938-1948 fatalities from bronchogenic carinoma in the United States increased 144 per cent, whereas total cancer deaths increased only 31 per cent. From 1920 to 1948, death rate from bronchogenic carcinoma per 100,000 population in our country increased over ten times. A report in the British Medical

Journal by Doll and Hill in 1950 states, "About the age of 45, the risk of developing the disease increases in simple proportion with the amount smoked, and it is approximately fifty times as great among those who smoke twenty-five or more cigarettes a day as among non-smokers." Furthermore, it has been stated without controversy that postoperative respiratory complications are five times as frequent in smokers as in nonsmokers. Another relevant observation is the accepted fact that repeated and prolonged irritation of tissue is carcinogenic. Wynder and Graham in J.A.M.A. two years ago in an article entitled "Tobacco Smoking as a Possible Etiologic Factor in Bronchogenic Carinoma" found that in 605 male patients with the disease, 2.6 per cent did not smoke or smoked minimally, but 96 per cent had smoked heavily for twenty years or more.

Many physicians who deal with cancers about the lips and oral cavity cannot recall having seen a case in a non-smoker.

We believe that tobacco companies have overdone promulgation of "medical testimony" regarding merits of their products. Perhaps the one which offers a treat instead of a treatment is keeping its feet on the ground. None of them will thank us for publicizing the above statistics. However, our responsibility is to the people and every factor that has to do with carcinogenesis should be given the publicity it deserves.

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The "Wedge" Must Not Enter!

ECONOMIC problems and public relations activities of our profession are no longer thrashed out quietly within the realm of medical organizations. Our problems are now national, political, and world-wide. This has been particularly true during the past decade or two when the world has noted the collapse of Vienna as the international headquarters for medical teaching, Austria having been among the early experimenters with medical socialization. The world has also noted the economic collapse of England, abetted by squandering of national funds incidental to the vain effort to make a successfull go of total nationalization of medical and dental services. Thus, thoughtful Americans and hundreds of American organizations have opposed activities of Federal Security Administrator Oscar Ewing and President Truman who would do the same to us.

We realize, however, that legislation for reorganization of existing federal medical services is in order. The citizens committee for the Hoover report has drawn up many bills designed toward efficiency and economy in government. Among these is a group of bills designed to create an over-all federal health department with cabinet rank to supervise and merge all existing federal health, hospital, and medical services including those of the Veterans Administration and excepting only those of the armed forces. The American Legion, as would be expected, opposes these bills because they would subordinate veterans' medical care to still another super-bureau not primarily interested in veterans' problems. The proposed reform would unify some thirty-five national agencies, and supposedly it would minimize duplication of services, inefficiency, and extravagance. But we and our American Medical Association oppose this particular legislation.

An editorial in one of our regional newspapers has attacked the A.M.A. and American doctors for inertia and inconsistency regarding these activities. It states that the A.M.A. offers no compromising amendments, that we are like 'the dog in the manger," that we are shortsighted in seeming to ignore an economy need which we have previously recognized.

It looks to us as though the editor missed an important point. Nationalization of medicine in other countries has been the entering wedge for socialization of other, if not all, major enterprises. The A.M.A. and the profession it represents are aware of danger to the people of America from any major centralization of national medical services in Washington. Is it not natural that American doctors and the A.M.A. would rise slowly to a proposition with such implications? We must proceed conservatively and with deliberation. This, rather than "dog in the manger," is our position. We are being farsighted—not shortsighted!

Original Articles

Symposium on Lupus Erythematosus

THE GENERAL PROBLEM AND DESCRIPTION OF LUPUS ERYTHEMATOSUS*

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For many years lupus erythematosus has been of almost exclusive interest to dermatologists. During the past twenty-five years since the work of Libman-Sacks and others a great general interest has been shown by internists and general practitioners in this group of diseases. Dermatologists, because of their interest in these patients, have learned much about this disease.

The diagnosis is complicated by many difficulties in both chronic and acute forms, and treatment is equally hazardous since injudicious use of the gold salts or any of the other standard methods such as removal of foci of infection may be attended by serious and, in many instances, fatal complications. It is the purpose of this paper to discuss this disease in an effort to outline proper methods of investigation and treatment so that these many untoward complications may be best avoided.

Lupus erythematosus is a systemic disease, by many considered to be a manifestation of a profound general collagen disturbance of the body. The association of the word "lupus" leads to a confusion with tuberculosis with which lupus erythematosus has only a questionable and not clearly defined relationship.

Clinically the disease is recognized in several different forms: the chronic type, the subacute type and the acute disseminated variety.

Chronic Discoid Lupus Erythematosus

The chronic form of this disease is characterized by 0.5 to one cm. and often larger plaques, usually over the nose and cheeks, more rarely on the back of the hands, but practically always on exposed surfaces. These plaques are usually first edematous papules which enlarge, become dry and are covered by a dry, horny scale. The lesions increase in size by peripheral extension and the center becomes dry and scaly, later showing atrophy and in some areas definite atrophic scars. As the inflammation subsides the dry scale is characterized by horny plugs extending into the follicular orifices. After months, or years, the center of the lesions becomes atrophic and the plaques may show all of the features of lupus erythematosus—erythema, scaling, and atrophy. These areas commonly go on to healing with or without treatment after a great variation in time, and when healed show a noncontractile scar. Some areas of these scars show telangiectases and a surface stippled appearance with prominent dilated follicles. Rarely areas heal with almost imperceptible atrophy. Patches are seen in the scalp and are seen here as scarred areas of alopecia with relatively little inflammatory reaction. Dry, silvery, scaled areas of the lips are not uncommon and more rarely roughened erythematous patches may be seen on the buccal and lingual mucous membrane.

Chronic discoid lupus erythematosus is usually characterized by soft, enlarged and nontender regional lymph nodes but by no other evidence of systemic disease. The blood count, urinalysis and sedimentation rate are not altered.

*From the Department of Dermatology, University of Colorado Medical School. Presented at the annual session of the Colorado State Medical Society, Denver, Colorado, September 18-22, 1951, as part of a Symposium upon Lupus Erythematosus.

Subacute Lupus Erythematosus

This form usually is seen as edematous, erythematous patches of the cheeks, face, dorsa of the hands, arms, upper chest and neck. The plaques do not show the typical scale with carpet-tack plugs and rarely any atrophic changes. The onset of these lesions is usually much more explosive than the chronic form, and rapid spread is usual. Symmetrical arrangement of the eruption is usual. The course of this form of the disease is varied, in most the eruption fades and a few of the patches will assume the form of the chronic discoid variety showing erythema, scale and atrophy while most will disappear, leaving no trace on the skin. The importance of this form of the disease is that it may rapidly progress to the usually fatal acute form or involute, showing the characteristic picture of the chronic discoid form.

Evidence of systemic disturbance usually is slight. There may be a slight leukopenia and an elevation of the sedimentation rate to 20 mm. per hour, but rarely higher.

Acute Disseminate Lupus Erythematosus

The acute form of this disease, fortunately rare, is a grave systemic disorder accompanied by serious constitutional symptoms and characterized by many and varied signs. The skin lesions may be seen early, late or not at all. Onset with arthralgia or hydrops of larger joints is a common form, others show polyserositis with pleuritic, pericardial or peritoneal effusion; enlarged tender spleen and liver are not uncommon early signs of the disease. A persistent septic temperature is almost a constant finding with this form, albuminuria is usual, leukopenia and a greatly elevated sedimentation rate are regularly seen. Loss of appetite, nausea, vomiting or diarrhea are not uncommon symptoms.

A vegetative endocarditis with embolic phenomena and sterile blood culture is not uncommon, and most observers are of the opinion at present that the Libman-Sachs syndrome is one manifestation of this disease. The above systemic manifestations progress with increasing intensity, wasting, elevation of temperature and leukopenia with a usually fatal termination in a period of several months.

The skin manifestations are varied but are in general characterized by erythema and edema with little scaling and very rarely any typical carpet-tack plugging.

The areas of predilection are in general the exposed surfaces; however, general macular and plaque-like lesions are sometimes seen.

A skin manifestation of grave prognostic import is the erythematous linear and edematous patches on the terminal pads of fingers and toes. These become dry and occasionally gangrenous, healing at times with linear scarring of finger and toe tips.

Histopathology

Histopathologically skin lesions from all forms of the disease show similar structure in varying degrees. The typical picture is most marked in the chronic form of the disease. Here the epidermis shows atrophy with patchy hyperkeratosis collected primarily in follicular openings, the granular layer is thin or absent and the basal layer is thinned out and flattened. There may be some acanthosis. The basement membrane is washed out in some areas. The dermal papillary vessels are dilated and there is a moderate infiltrate of predominately lymphocytes extending down along the vessels into the deep cutis. The vessel walls are edematous and in some areas show a homogenization and fragmentation of collagen bundles which some say is characteristic of the disease. The hair follicles, sweat and sebaceous glands are atrophic or entirely absent. The dermal connective tissue is fragmented, the strands may merge with the formation of collacin and moderate to marked basophilic degeneration may be seen. The acute and subacute varieties of the disease show a similar picture with more edema, less atrophy and a more acute inflammatory process in the dermis.

THE L. E. PHENOMENON*

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For a disease so protean in its clinical and laboratory manifestations, the discovery of a specific and consistent laboratory test for systemic lupus erythematosus is comparable in many respects to the discovery of the serological test for syphilis. Thus the report on the L. E. phenomenon, first made at the Mayo Clinic by Dr. M. M. Hargraves, was received by the medical world with great enthusiasm.

In his first paper on the subject in 1948, Dr. Hargraves described the L. E. cell as a peculiar finding which seemed to appear with great regularity in the bone marrow of patients ill with systemic lupus erythematosus. It was seen to be a mature neutrophilic leukocyte which contains within its cell membrane one or more masses of nuclear material. These masses, round or oval in outline, vary in size from a third of the size of a red blood cell to three or four times that size. They are granular or homogenous in appearance, and the chromatin network which distinguishes nuclei of cells is usually absent. The L. E. "body" is usually seen as a large round homogenous body taking a bluish stain, with darker staining lobulated cell nuclei festooning its periphery. One gets the impression that the lobulated nucleus of the leukocyte has been pushed or crowded to the periphery of the cell by the intracytoplasmic mass described.

Besides the typical cell as described, the L. E. phenomenon includes the formation of so-called "rosettes" and clumping of the leukocytes. This latter phenomenon causes flocculation in the test tube with positive material, which is apparent grossly. The rosette consists of a central mass of bluish stained cell debris surrounded by phagocytes forming a ring around the central mass. The phagocytes appear to be engulfing the material in the center. Often seen is an abundance of particles clinging to the outer cell membrane of the leukocyte, which is believed to be fragmented nuclear material.

The L. E. Cell in Bone Marrow and Peripheral Blood

The L. E. cell was first demonstrated in the bone marrow. About a year later, Sundberg and Lick reported the L. E. cell in smears from the peripheral blood. This observation was confirmed by Hargraves in April of the same year. Haserick and Bortz demonstrated the "induction" of the L. E. cell by mixing plasma from cases of acute systemic lupus erythematosus with bone marrow from normal people.

Peripheral Blood Tests

During our studies on the L. E. phenomenon, the bone marrow test as originally described by Hargraves was found to be technically cumbersome and difficult. The modification proposed by Haserick and Bortz was equally difficult to perform in a large series of cases. In a preliminary report published in July, 1949, Moffatt, Barnes, and Weiss described a method of producing the L. E. cell by using the plasma of patients with acute systemic lupus erythematosus mixed with white cells obtained by centrifuging peripheral blood from normal persons.

In all of these reports and investigations, anticoagulants, chiefly heparin, were used. Helpful critics suggested the entire phenomenon might be an artefact produced by the anticoagulant used.

The Barnes-Moffatt Test

This led to the demonstration of the L. E. phenomenon without the use of anticoagulants, a test which has greatly simplified the diagnosis of acute systemic lupus erythematosus. In this method, first reported by us in June, 1950, venous blood is withdrawn from the patient and a retractile clot allowed to form. The serum from this blood is then mixed with white cells obtained by centrifuging defibrinated normal

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peripheral blood. This test is now being used in several medical centers, and has proved to be effective. It is suggested as a laboratory test which may be utilized as a "screening" test on many obscure cases which occur from time to time. Thus, it was shown that the anticoagulant was not a factor in the L. E. phenomenon. By so doing, a single and effective test for lupus erythematosus was evolved. This test has been shown to be consistently positive whenever L. E. cells were demonstrated in the marrow. The L. E. cell, the L. E. phenomenon, and the Barnes-Moffatt test have stood the test of time, and exhaustive research has shown them to be specific for systemic lupus erythematosus.

TREATMENT OF LUPUS ERYTHEMATOSUS*

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In approaching the problem of therapy of lupus erythematosus one must bear in mind the various clinical and laboratory aspects of the disease as just discussed. One must also remember that the etiology is unknown, and therapy therefore is empirical. This should not dampen one's efforts toward treatment, however. Many of the suggested therapeutic regimes have no rhyme or reason, but clinical experience has shown them to be moderately successful. This type of therapy, although not the most desirable, is by no means unique to this entity. There are few diseases that require more therapeutic resourcefulness than does lupus erythematosus. The problems are manifold. In the chronic discoid type one is faced with a disease that is apparently limited to the skin, and is many times recalcitrant to treatment. The patient is otherwise healthy; however, a serious cosmetic problem is often present with the affected individual that warrants active intervention. On the other end of the clinical scale one is faced with the problems incumbent to a seriously and acutely ill patient. At the clinical junctures between these limits proper therapy often depends on clinical experience, judicious use of otherwise harmful medications, good supportive measures, and that honored remedy "tincture of time." I should like to break down the discussion of therapy into a consideration of the clinical classifications.

In the chronic discoid type the clinical findings are limited to the skin and the laboratory findings are normal. Therefore, one may be somewhat vigorous in his therapeutic attempts. Before instituting any type of therapy, it is necessary to eliminate foci of infection by whatever means is clinically indicated. The individual must be cautioned about over-exposure to sunlight, and a protective sunscreening cream is to be recommended. We have found the two most satisfactory agents to be A-Fil (menthyl anthranilate) and creams containing 10-15 per cent para-aminobenzoic acid. In cases where irritation or sensitivity is produced to the above, combinations of salol, metylsalicylate, bismuth subnitrate, or quinine sulfate may be employed. The use of gold salts or bismuth have enjoyed the widest usage of the many proposed types of therapy. The soluble gold sodium thiosulfate or the collodial gold preparations may be used. The recommended dosage is 10 mgm. initially to be increased by 10 mgm. weekly until a maximum dosage of 50 mgm. is reached. This is maintained for nine to twelve weeks. Repeat courses may be given after a rest period of three to six months. Bismuth subsalicylate may be given once or twice weekly in doses of 120 mgm. An oral bismuth preparation is available, but in our experience has not been as effective for this particular disease as the injectable form. The blood count and urinalysis must, of course, be checked frequently. Heavy metals must be stopped at the first sign of complication. At any point that one suspects

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disseminated activity the heavy metals must also be discontinued and the patient re-evaluated. Vitamin E has been reportedly successful and is apparently innocuous. This is worthwhile in some patients and should be administered as mixed tocopheral 200-300 mgm. daily. This may be increased to as much as 600 mgm. daily. The use of para-aminobenzoic acid has also been given a rather wide clinical trial and is successful in a limited number of cases. The dosage is large (10-20 gms. daily) and must be continued for a prolonged period. In some recalcitrant cases the local use of solid carbon dioxide can be tried. We have also had success with the local use of liquid nitrogen in a limited number of cases. The topical use of cortisone is being investigated but there are no statistically satisfactory reports as yet.

The subacute phase requires considerable therapeutic discretion. In this sub-type the disease is touch and go and the patient's welfare is in severe jeopardy. Treatment should be limited to a search for foci of infection and cautious elimination thereof preferably by chemotherapy until such a time that the patient's condition will allow dental or surgical intervention. Improvement of the general health is paramount. This should be attempted by an adequate rest routine, high vitamin and high protein diet, protection from actinic irradiation, and the use of crude liver extract. The heavy metals should in general be avoided, although bismuth may be useful in the subacute patients with a paucity of findings. Para-aminobenzoic acid 10-20 gms. may be tried. Testosterone proprionate 10-25 mgm. daily has been advocated and is a valuable adjunct particularly in those patients exhibiting marked photosensitivity. ACTH and cortisone will probably be the first consideration of many. In general, though, their effects are not too satisfactory in this category. It is felt that the effectiveness of these steroids varies inversely as the clinical activity of the disease. There is also the problem of the patient becoming refractory to the drug, therefore precluding its usage at a future time when desperately needed by the patient. With proper handling of patients with subacute lupus erythematosus the majority should revert to the chronic phase with commensurate reversal of laboratory findings.

The acute disseminate form of the disease usually requires hospitalization with emphasis on good general supportive care. Focal infection, again, must be handled cautiously and preferably chemo-therapeutically. This alone may be adequate to produce a remission and should always be the first avenue of approach. If the patient is acutely and desperately ill concomitant use of ACTH or cortisone is certainly indicated and may be essential if the individual is to cope with his acute stress situation. In cases where clinical judgment warrants otherwise, a more conservative handling of the case may be gratifying and successful. To be certain there were a percentage of cases of this entity that recovered by this type of management before the advent of the cortico steroids. Small multiple transfusions combined with intramuscular crude liver extract are in order. Because of the component renal aspects there are often problems of water and electrolyte balance which must be met. Paracenteses of serous cavities may be necessary. If the patient is too acutely ill for conservative management or has not favorably reacted thereto, then the use of ACTH or cortisone becomes imperative. The disease may respond to either agent, but specific usage might depend on the peripheral eosinophile count and its response to the injection of epinephrine. Cortisone in amounts of 200-300 mgm. daily (adult dosage) should be given initially. ACTH should be given in doses ranging from 80-120 mgm. daily. If intravenous ACTH is employed the dosage recommended is 20-30 mgm. in 1000 c.c. normal saline infused over a period of six to eight hours. This has the advantage of being more clinically efficient and more economical in supply and cost. Clinical circumstances, however, may preclude this method of administration. The response may be dramatic with marked improvement in a period of twenty-four to seventy-two hours. In other patients improvement is steady but more protracted. There are some who are refractory. This

lack of response may improve on greater amounts of the drug. There is one case on record where it was necessary to give 2300 mgm. of cortisone in twenty-four hours in order to effect a clinical response. With clinical improvement there is usually a shift in laboratory values toward normal, although this may follow a lag period. Some of the laboratory values may remain permanently abnormal. The positive L. E. phenomenon may no longer be discernible. With these improvements the amount of steroid may be gradually decreased in tapering fashion according to the clinical reaction of the patient. It is probable that small maintenance doses will be necessary and the amount and frequency of administration will depend upon individual trial and error. With all of this one must be alert for the complications of therapy. A discussion of these complications is not within the scope of this paper, but the literature is abundant and the information familiar to us all. Complete, but temporary, clinical remissions may be produced. At this point some patients will tolerate complete discontinuance of the drug and remain well; others will show evidence of exacerbation and readministration will be necessary. Utimately the majority if not all exhibit an escape phenomenon to the drugs and will succumb to their disease in spite of the amounts given. The supplemental use of testosterone may again prove to be a valuable adjunct to treatment in those patients who do not respond to the cortico steroids or those in whom complete remission is not attained. If testosterone proves beneficial castration should be considered. In conclusion, it is important to emphasize that the effects of cortisone and ACTH as we know them at this time are the affectation of clinical and laboratory remissions which are practically always temporary within a period of weeks, months, or years. The introduction of these agents has provided one with therapeutic tools with which one can temporarily, at least, alter the course of the disease. Prior to this time one had to rely on keeping the patient alive by supportive measures and hope that fate would smile and the natural course of the disease prove favorable to the individual.

Summary

This paper has outlined under three general headings the treatment of lupus erythematosus. The need for therapeutic resourcefulness and judicious handling of the patients has been emphasized. An outline of the administration of ACTH and cortisone has been given.

KOA to Broadcast AMA Health Series

Station KOA of Denver will broadcast a special series of health education shows produced in cooperation with the American Medical Association on six successive Saturdays, beginning April 5.

Broadcast time of the half-hour shows in the series, entitled "Medicine, USA," will be 2-2:30 p.m. The series will be narrated by Charles Laughton, famous English actor, and will utilize the best writing, acting and directing talent available.

"Medicine, USA," is a top-flight educational series presented as a public service by the American Medical Association. It will be broadcast by about 100 NBC stations.

AMA officials describe the series as the best ever produced by the organization and feel it will have wide public interest because it will describe new developments in a wide sphere of medicine.

The KOA broadcast schedule follows: April 5, Alcoholism; April 12, Psychiatry; April 19, Longer Life; April 26, Contagious Diseases; May 3, Exercise and Athletics; May 10, Medicine's Progress.

BLUE SHIELD MEDICAL CARE PLANS

Blue Shield medical care plans have enrolled 21,000,000 people in the United States and Canada, according to an announcement by the Blue Shield Commission, Chicago, national association of the non-profit Blue Shield plans, sponsored by the medical profession.

Frank E. Smith, director of the Blue Shield Commission, said: "The 115,000 doctors who sponsor the seventy-seven non-profit Blue Shield plans have given dramatic proof that the voluntary prepayment principle can be made to work. Enrollment of 21,000,000 people within the space of only a few years is ample testimony to the fact that the public wants this type of protection. Even more encouraging is the accelerated speed at which enrollment is growing; Blue Shield plans added more than 6,000,000 members during the last twelve months."

THE PARANASAL SINUSES*

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The paranasal sinuses are air spaces located within the skull which help to make it light in weight and rigid, and to add resonance to the voice. They consist of the maxillaries, the frontals, the sphenoids, and an average of eighteen ethmoid cells. These sinuses are lined with mucous membrane similar to that in the nasal cavities. All the sinuses are developed by mucous membrane invasion of the bony structure.

Maxillary Sinus

The largest of the sinuses, the maxillary, or antrum of Highmore, is located in the body and zygomatic process of the maxilla. The malar bone is also often invaded if the sinus is large. The antrum is roughly pyramidal in shape, with its base directed toward the nasal cavity and the apex toward the zygoma. An analysis of 100 sinuses showed the average dimensions to be: 34 mm. in length, 23 mm. in width, and 33 mm. in the vertical meridian. The average capacity is around 15 c.c. in the adult. At birth, the sinus is about the size and shape of a small lima bean. Its full size is generally reached at about the fifteenth year.

In the middle meatus, under cover of the middle turbinate, is a rather deep, curved furrow—the ethmoid infundibulum. This is bounded above by the ethmoid bulla, and below by the uncinate process of the ethmoid. These latter two structures are often spoken of as secondary turbinates. The curved opening into the infundibulum is the hiatus semilunaris. The opening from the nose into the maxillary sinus lies in the middle one-third of the infundibulum. This ostia opens into the superior part of the antrum. Twenty-three per cent of maxillary sinuses have one or more accessory openings located posteriorly to the usual ostia. In about 1 per cent of cases there is a double antrum, each with an opening into the nose.

Frontal Sinus

There are usually two frontal sinuses, one on either side; but in perhaps 40 per cent of cases there is an additional frontal cell, or sinus. As many as six frontal sinuses, each with separate ostia, have been found in a single skull. Rarely the sinus may be absent. The sinus is located in the squamous and orbital portions of the frontal bone, and has an average capacity of 6 or 7 c.c. The dimensions are roughly 30 mm. in height, 20 mm. in width, and 15 to 20 mm. in depth. The shape is irregular and incomplete septa usually divide it into pockets. The septum between the two sinuses is quite thin and rarely in the midline. Drainage from the frontal sinus is by way of the nasofrontal duct which opens in about 50 per cent of cases into the anterior end of the infundibulum. In the other cases it opens anteriorly to this under cover of the middle turbinate. The duct may be straight and wide, or narrow and tortuous, depending on the path taken by the invading cell which formed the frontal sinus. The duct is often narrowed by encroaching ethmoid or frontal cells. The frontal sinus does not begin active development until about seven years of age, and attains its full size around the twentieth year. The posterior walls of the frontal sinus are usually thin and contain communicating vessels between the dura and the sinus membrane.

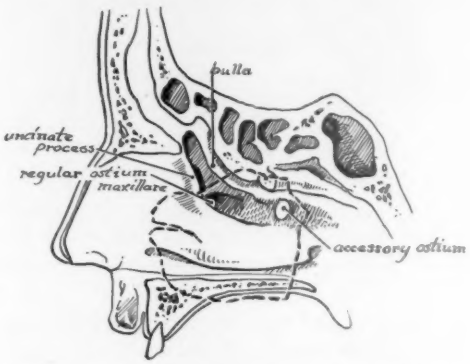

Fig. 1. Showing the location of the bulla ethmoidalis, the uncinate process, and the grooved opening between them . . . the hiatus semilunaris. The usual location of the maxillary osteum as well as an accessory opening is shown.

*From the Lovelace Clinic, Albuquerque, N M.

Ethmoid Cells

The ethmoid cells or sinuses present a honeycomb appearance and vary from four to seventeen on each side, with an average of nine. They have a tendency to expand and fill all available space. They completely pneumatize the lateral masses of the ethmoid bone and extend into the adjacent maxillary, frontal, lacrimal, palatine, and sphenoid bones. They are stopped only by hard, compact bone. They are divided into an anterior and posterior group by the attachment of the middle turbinate. The posterior group drain by rather small ostia above the middle turbinate, into the superior meatus and thus into the nasopharynx. The anterior group drain by minute ostia into the middle meatus, forming small drainage grooves on the lateral nasal wall. The ethmoid cells are present at birth and attain their full growth usually by the twelfth to fourteenth year. They may come into close anatomical relationship with the anterior cranial fossa, the optic nerves, or the orbit.

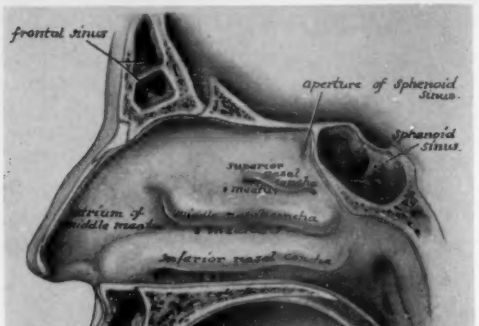

Fig. 2. Showing the lateral nasal wall, frontal and sphnoid sinuses.

Sphenoid Sinus

There are usually two sphenoid sinuses but very rarely there may be two sinuses on one side. Rarely there is an absence of one sphenoid. Often the sphenoids are poorly pneumatized. The septa dividing the two sinuses is rarely in the midline. The sinus is located in the body of the sphenoid bone and has an average length of 23 mm. and a width of 17.4 mm. The height averages about 19 mm. but extremes run from about 5 to 33 mm. Its volume averages 6 or 7 c.c., i.e. the same as the frontal. The sphenoid ositum is usually oval, with its long axis vertical, and an area of about 7 square mm. It is located on the anterior face of the sinus, usually near the middle or toward the roof of the sinus. In 14 per cent, the opening is nearer the floor of the sinus. The ostium drains into the sphenoethmoidal recess. It is generally about 2 mm. lateral to the nasal septum. It may be probed without difficulty in the majority of cases (84 per cent). The sphenoid sinus is pneumatized by the third or fourth year, but gradually increases in size to about the fourteenth year. It is in anatomical relationship to the second, third, fourth and sixth cranial nerves, ophthalmic and maxillary nerves, the vidian nerve, the optic chiasma, the cavernous sinus, and the internal carotid and ophthalmic arteries.

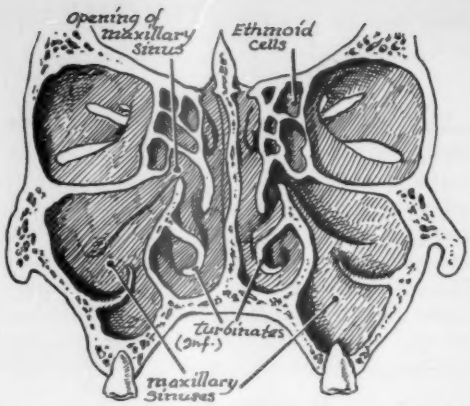

Fig. 3. Coronal Section through the head showing the ethmoid labyrinth, turbinates, maxillary sinuses and anterior cranial fossa.

Histology

The mucous membrane of the nose is a specialized tissue. It serves to moisten the inspired air to approximately 90 per cent relative humidity. To do this it secretes about one liter of water every twenty-four hours. The upper one-third of the membrane is non-ciliated and is the olfactory membrane concerned with the sense of smell. The respiratory mucous membrane

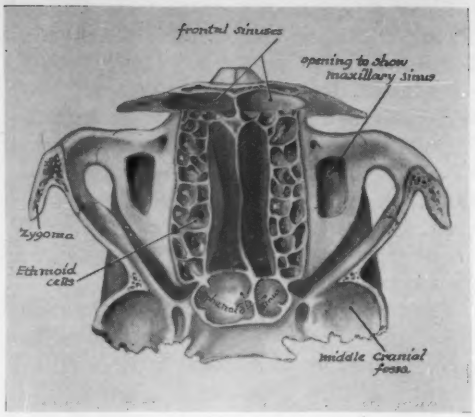

Fig. 4 Horizontal section through the head showing all the sinuses. This cut shows an unusually high number of ethmoid cells.

consists of pseudo-stratified, ciliated, columnar epithelium with nuclei at various levels, resting on a stroma of variable thickness. The stroma is made up of blood vessels, cavernous spaces, mucous glands, nerves and connective tissue. A mucous sheet or blanket rides on top of the cilia. The cilia, together with the blanket of mucous resting on them, probably constitutes our most important single mechanism of defense. The entire respiratory portion of the nose, from the vestibule to the nasopharynx, is covered with an unbroken layer of this muco-ciliary defense mechanism. The mucous sheet, thin but cohesive, acts like a conveyor-belt, carrying dust, dirt, bacteria, pollen, and other particulate matter on its surface from every part of the nose and sinuses, being propelled by the cilia, to the nasopharynx. Here, normally, the material passes on into the gastro-intestinal tract by the involuntary act of swallowing.

Ciliary pathways in the sinuses are always toward and through the ostia. In the nose the stream is directed into the nasopharynx. In the normal nose, face powder, lampblack, or other particles require eight to ten minutes to traverse the length of the nasal cavities. If face powder is found on the anterior portion of the mucous blanket it is usually safe to say that the patient has powdered her nose in the last five minutes.

Human cilia are about seven microns long by .25 microns in diameter. They are packed closely on the free surface of the epithelial cells and beat eight to twelve times per second. Each cycle consists of a rapid, effective stroke and of a slower recovery stroke. Cilia are primitive structures and highly viable. They may continue to beat for many hours after death, even until putrefaction sets in. They may continue to beat regularly in the presence of blood or pus. They are slowed down by heat or cold (32° C. being optimum). Normal nasal pH runs from 5.5 to 6.5 and this is conducive to good ciliary activity. Activity increases in alkaline solution up to about 8.5 or so and most nasal secretions during nasal infections are alkaline. Cilia are commonly regenerated along with the epithelium following stripping of the mucosa from the bone. They remain viable following sufficient x-ray or radium to produce changes

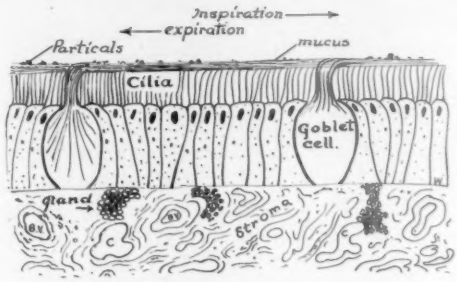

Fig. 5. Highly diagrammatical section of respiratory mucous membrane showing cilia, mucous blanket, and goblet cells.

in the underlying tissues. Drying produces almost instant stopping of ciliary activity.

Professor Bowditch of Harvard found that one cilium does enough work in one minute to lift its own weight to a height of about fourteen feet. Water, argyrol, neosilvol, 0.5 per cent silver nitrate, cocaine over 2.5 per cent, epinephrin stronger than 1:5000, camphor, thymol, encalyptol, menthol, zinc sulphate, 1:10,000 merthiolate or 2 per cent mercurochrome, greatly retard or immediately paralyze ciliary activity. Morphine and atrophine by hypo slow or stop ciliary activity. Normal saline, ephedrine 0.5 to 1 per cent, Tuamine SO^{8}_{4}, or Clopane HCl^{8} have little effect on ciliary activity. Normally the intranasal pressure varies from —6 mm. of water on inspiration to +6 mm. of water on expiration. It has been

found by experiment that blocking the posterior nares, so that there is no pressure variation, greatly slows and finally stops all ciliary activity.

Although the epithelium itself maintains a uniformity of structure throughout the nose and sinuses, such is not true of the stroma. The stroma of the inferior turbinate contains large cavernous spaces and few mucous glands. On the other hand, the middle and superior turbinates contain many mucous glands and very few cavernous spaces. The septum and lateral wall of the nose (other than the turbinates) contain a uniform distribution of mucous glands. In all the sinuses the mucous membrane is very thin (as thin or thinner than the finest tissue paper) and except near the sinus ostia, contains few glands. The sinus lining, however, contains many more goblet cells than are found in the nasal membrane.

According to Val Alyea, normal respiratory mucous membrane does not exist, at least after the first few months of life, since low grade inflammatory changes are always present. The membrane continually acts as a barrier and as such is constantly irritated. The air blast on the tips of the two lower turbinates and a corresponding portion of the septum usually causes a metaplasia to stratified squamous epithelium in these areas.

Common Cold

Aside from the elusive virus which is undoubtedly the causative agent, many other factors are etiologically important. Physical fatigue, lack of sleep, indulgence in excesses of all types, worries and fears, and anxiety neuroses often are important factors. Dust and wind are important factors as evidenced by the large number of upper respiratory infections following dust storms in the southwest. Chilling the body produces ischemia of the nasal membranes and lessens secretion. This drying stops ciliary activity and breaks occur in the mucous sheet which paves the way for infection. Histamine is released from the tissues and aggravates the swelling. It is for this reason that the antihistamine drugs have been used in the early stages of a cold.

Early symptoms are dryness of nose and throat, chilliness, and sneezing. These may be followed by headache, malaise, cough, sore throat, fever, etc. Later the dry nose becomes engorged and there is an outpouring of watery secretion. The sinuses become blocked. As the virus ceases activity by the third day, many colds will clear up at this time. If not, the infection is carried on by known bacteria: staphylococci, streptococci, pneumococci, etc.

Treatment consists of putting the patient to bed in a warm, well moistened room. Aspirin compound, with codeine, is given for comfort. Locally Tuamine sulphate or Clopane Hydrochloride may be used to improve ventilation. However, in the acute phase, some men feel that drops or sprays may do harm by carrying infected material into the sinuses.

Maxillary Sinusitis

Maxillary sinusitis usually follows a cold. The infection passes through the natural opening or an accessory opening. Blowing the nose, sneezing, or nasal medication may help in this process. Occasionally the infection may be from an infected tooth root, or follow the extraction of a tooth. Here infected material from the mouth gains access to the sinus. Infections of dental origin generally have a foul-smelling discharge. Edema and swelling as a result of the infection blocks the opening and infected material cannot be swept from the sinus.

The symptoms vary with the virulence of the organism and the resistance of the host. There may be fever, general malaise, pain over the cheek or in the eye or teeth, nasal voice and nasal discharge. The patient may complain of only a sore throat or blocked nose. In chronic infections there may be no symptoms or there may be neurotic pains in the various parts of the body; they may tire easily and be easily depressed. There may be frequent colds, nasal stuffiness, postnasal discharge, chronic cough, chronic sore throat, etc.

Diagnosis: In acute cases the patient often makes the diagnosis himself. History of a recent cold with pain in the cheek and upper teeth on the same side is quite suggestive. If this sinus is dark on transillumina-

tion and pus is found in the middle meatus, the diagnosis is assured. In the long-standing cases diagnostic puncture and x-ray are often necessary. In the doubtful cases sterile saline may be injected into the sinus, the head shaken, and the fluid aspirated for bacteriological study.

Treatment: The principles of treatment are the establishment of sinus drainage, producing satisfactory nasal ventilation, and supplying sufficient moisture for ciliary activity. This applies to all sinuses. Many cases of antritis get well without treatment. Vasoconstrictives and antibiotics may be used in the acute state; i.e., while fever is present. Irrigation during the stage of acute engorgement may produce an osteomyelitis of the bone, and should not be done. However, after the "hot" stage has subsided all otolaryngologists agree that irrigation hastens recovery and prevents many cases of chronic sinusitis. They are divided, however, on the method of irrigation. Some men claim that the antrum should be lavaged through the natural opening if at all possible. Due to anatomical variations, no matter how proficient a man may be, he will not be able to do this in more than 70 to 80 per cent of the cases. Many of these men like to boast about their high percentage of irrigations through the natural opening and thus often force a dull cannula through the opening. This naturally traumatizes the opening, which will result in scarring and narrowing of the opening and invites further trouble. Furthermore, the canula very often fits so snugly into the natural opening that no return flow is possible. This leaves 40 per cent or so of cases that require puncture. If a natural opening has been attempted and found unavailable, considerably more time is consumed in cocainizing the inferior meatus and puncturing through this area. In addition to the above, I have found that puncture through the inferior meatus is to be preferred for the following reasons: (a) it is applicable to all cases; (b) there is no damage to the natural opening; (c) there is usually adequate return flow; and (d) it saves time in most cases. It is true that in selected cases that have a large natural opening, or a suitable accessory opening, lavage through the natural opening is satisfactory.

The sinus is washed with two ounces of normal saline, followed by a blast of air. This is repeated; i.e., two ounces of saline followed by more air. The air, I believe, is important as very often a clump of pus is dislodged by it which could not be irrigated from the sinus. There have been a few reports in the literature of air embolism following this procedure, but I believe that in all these cases air was injected before lavage; or the operator was not sure of the location of the tip of the cannula. I think it is dangerous to inject air until lavage has proved the cannula to be properly located and that there is an adequate opening for the air to return to the nasal cavity. In a sinus that fails to reveal pus on the first two ounces of saline and which has previously been infected, shaking the head from side to side and backwards and forwards may loosen dried secretion from the floor so that it may be lavaged from the sinus. Following the air into the sinus 5 c.c. of a solution containing 20,000 units of penicillin, 0.1 gm. dihydrostreptomycin in 0.2 per cent Tuamine Sulfate is instilled. There seems to be considerable evidence that combining a vasoconstrictive with an antibiotic in the sinus cavity is of definite value. One, two or three irrigations at three-day intervals clear up nearly all of the acute cases.

Many times the middle turbinate blocks the opening from the maxillary sinus and fracturing the turbinate inwards results in rapid recovery. In those cases that continue to have pus in the sinus after five or six irrigations, a permanent antrum window should be made in the lateral wall of the nose close to the floor. Ninety per cent of chronic maxillary sinusitis that will not respond to irrigation can be cured in this way. In the 10 per cent that are not cured by operation, Shambaugh has said that "it makes little difference what the condition of the sinus membrane is, as long as there is adequate drainage into the nose." Radical operation is usually reserved for cases of tumor, severe infection, or foreign body.

Complications: The chief complication of antritis is otitis media. This is especially

true in children. Other complications include involvement of the other sinuses, mastoiditis, pharyngitis, infection of the lower respiratory tract, such as bronchiectasis, and rarely, cellulitis of the cheek as the result of bone erosion.

Frontal Sinusitis

Frontal sinusitis occurs only rarely as compared with maxillary disease. I see only one case of frontal sinusitis for seventy-five to 100 cases of maxillary sinusitis. It may follow an upper respiratory infection or often is caused by swimming. Trauma accounts for a small number of cases. Polyps, nasal allergy or hyperplasia of the nasal mucosa predispose to frontal sinus disease.

Symptoms: The symptoms depend on the degree of obstruction of the nasofrontal duct. With complete obstruction the pain is severe, is located above the eye, comes on suddenly, and is difficult to control even with morphine. There is usually marked anxiety and fever up to 105 degrees. If the duct is only partially obstructed the pain usually arises in the morning and leaves by early afternoon, so-called banker's hours headache.

Diagnosis: Transillumination and x-ray usually, but not always, reveal some opacity over the affected side. Ewing's sign, or marked tenderness over the medial portion of the floor of the sinus, is usually present. The intranasal findings depend on the degree of occlusion of the nasofrontal duct. Pus is often found under the middle turbinate in the milder cases, but this is not true in the completely blocked sinus. In the more severe cases there is edema of the upper lid and the eye may be completely swollen shut. The differential diagnosis includes insect bite, lid abscess, acute ethmoiditis with abscess formation, supra-orbital neuritis and acute maxillary sinusitis. Ewing's sign is absent in insect bite. The differentiation of acute ethmoiditis with lid abscess from frontal sinusitis is best done by x-ray. In supra-orbital neuralgia the pain is irregular, sharp and shooting in character, and limited to the distribution of the nerve. Maxillary sinusitis (i.e., acute block) often gives frontal pain.

Treatment: Treatment consists of relief of pain with codeine or morphine if necessary, nasal shrinkage, and adequate dosages of penicillin. After the acute phase has subsided the sinus should be irrigated if at all possible. Many times there is an infected antrum on the same side. Clearing up this by irrigation often clears up the frontal sinus as well. If symptoms persist or become worse after the above treatment, it is necessary to make a trephine opening into the floor of the sinus and suture a rubber tube in place for drainage. After the sinus has quieted down the patency of the nasofrontal duct can usually be re-established by intranasal measures and the drain tube removed. Radical external operation is to be avoided if at all possible.

Complications: Complications are usually grave and include extradural, subdural or true brain abscess, meningitis, osteomyelitis of the frontal bone, orbital abscess, subperiosteal abscess, chronic frontal sinusitis and mucocoele.

Ethmoiditis

Ethmoiditis is perhaps the commonest of all sinus disease. The ethmoids are involved in every upper respiratory infection and practically all ethmoiditis is the result of such infection. Interference with drainage causes persistence of this infection.

Symptoms are generally a stuffy nose, general malaise, lassitude, anorexia (particularly in children), ocular disturbance (iritis), chronic cough, neuritic pains, arthritis, headache and, particularly with posterior ethmoiditis, an irritating postnasal discharge. The headache is usually mild and dull, between the eyes or in the parietal area radiating toward the vertex. The pain may be around the region of the ear. Frequent sore throats, which shift from one side to the other, are often the chief complaint.

Not over half of the people complaining of postnasal drip have posterior sinusitis; i.e., posterior ethmoiditis or sphenoiditis, or even any signs of sinusitis. Every normal person has a postnasal discharge. The discharge of mucous comes from the mucous glands of the nasal and sinus mucosa and from the goblet cells of the sinuses. It is

swept backward into the throat by the cilia. It picks up all sorts of particulate matter from the inhaled air, partly from the particles coming in direct contact with the mucous and partly by the attraction of the electrostatic charge on the mucous film as a result of the air currents over the film. The mucosa of the oropharynx is stratified squamous. Consequently, when the cilia dump this dirt-laden mucous into the oropharynx it stays there. It is dried and becomes more tenacious by the air currents passing over it, particularly with mouth breathing. Normally it is swallowed, but during sleep the accumulation may be considerable. Anything that irritates the nasal mucosa (as tobacco, dust and infections) produces more mucous that will find its way into the throat. Only in cases of severe atrophic rhinitis or following radiation therapy is there an abscess of this dumpage of mucous into the pharynx. Thus it can be seen that a postnasal drip is not necessarily an indication of sinus infection or disease.

Diagnosis: The diagnosis of ethmoiditis is often difficult. Pus on the lateral walls of the pharynx or coming down over the inferior turbinate, with a swollen middle turbinate, is suggestive, assuming the other sinuses to be normal. Finding of pus by displacement thereapy is perhaps the most reliable. X-ray findings, if the pictures are good, and especially if lipiodol is used, may help in conjunction with the other findings.

Treatment: If there is interference with drainage from the middle meatus, the middle turbinate should be infracted. It may be necessary to do a submucous resection before this can be accomplished. A thick middle turbinate containing ethmoid cells should be crushed with polypus forceps. After drainage is established Proetz displacement therapy should be given twice weekly or more often. This treatment removes infected material from the sinuses and allows some of the vasoconstrictive-antibiotic solution to enter the sinuses. In many cases the results are dramatic. In a few cases, even with adequate drainage, no form of treatment seems to prevent the formation of pus in the ethmoid labyrinth. Sedentary habits, allergy, nutritional deficiencies, endocrine imbalance, and general debilitating conditions, as bronchiectasis, the weather, occupation, etc., may account for the failure in these cases. In my opinion, radical operation should be reserved for those cases in which grave complications are pending and simple measures do not give results.

Complications: The chief complications are orbital abscess (especially in children), optic neuritis (from the posterior cells) and meningitis.

Sphenoiditis

Sphenoiditis is seldom diagnosed. It is usually associated with ethmoiditis of the posterior variety. A multitude of symptoms are attributed to this sinus. These include headache, inability to concentrate, aversion to work of all kinds, lassitude, malaise, forgetfulness, anorexia, lack of interest, cough, postnasal drip, enlargement of the blind spot, scintillating scotoma, vertigo and sleeplessness. The pain is dull, deep-seated and usually located in the occipital region or vertex. Many state that periodically something breaks and discharges into the throat. This generally occurs at night and awakens the patient.

Diagnosis: The diagnosis is often suggested by the history. Examination with the nasopharyngoscope is helpful, as is x-ray. Lipiodol films help in estimating the thickness of the membrane. Diagnostic lavage may be resorted to, but absence of pus washed from the sinus does not prove absence of infection. Many cases have been diagnosed at autopsy when the patient has died of meningitis.

Treatment: Treatment consists of displacement therapy with the head well back, irrigations through the natural opening, vasoconstrictives and, in the acute cases, the antibiotics given systemically. A long, narrow window placed close to the septum is indicated in cases of chronic suppuration that do not clear up following simple measures. Symptoms, however, sometimes continue after the window is made.

Complications: Complications include osteomyelitis of the base of the skull, men-

ingitis, cavernous sinus thrombosis and retrobulbar neuritis.

Sinus Disease in Children

Sinusitis during childhood is very common. The maxillary and ethmoids are present at birth. In autopsy studies of 495 children who died of a variety of medical and surgical causes, 31 per cent were found to have suppuration in one or more of the sinuses. The antrum was the most commonly involved. Of the 31 per cent having sinus disease 78 per cent also had otitis media. Fowler found the sinuses to be infected in 86 per cent of the ear affections of childhood. Campbell found 93 per cent. Many pediatricians tend to ignore the presence of sinus symptoms and direct their attention to the tonsils and adenoids, or the chest.

Dyes injected into the sinuses can be recovered from the tonsils. It is probable that the tonsils act as filters for toxic material originating in the sinuses. Sinus disease should be cleared up before tonsillectomy, if possible. Adenoid hypertrophy, however, may cause nasal obstruction and mouth breathing, factors which make for chronicity in sinus disease.

From a pediatric standpoint, the sinuses should be studied in those cases in which there are: (1) frequent colds and sore throats, (2) cough with no chest findings, (3) persistent nasal discharge, (4) recurrent otitis media, (5) continued anorexia and (6) unexplained daily temperature rise.

Treatment of children consists of displacement therapy for ethmoiditis and irrigation of the affected antra in addition to the general pediatric measures. Chronic antritis often requires antrotomy, but more radical surgery is rarely required in childen.

CLINICAL EVALUATION OF BANTHINE*

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Banthine is one of the group of parasympathetic blocking agents which acts as a secretory depressant and decreases gastrointestinal motility. Chemically this drug is a quartenary amine which is readily soluble in ordinary solvents as well as in gastric and intestinal secretions. Animal experiments have shown that Banthine acts as a blocking agent on both the sympathetic and parasympathetic ganglia; in addition, it exerts an atropine-like effect at the postganglionic nerve endings of the parasympathetic system. The drug thus exerts a dual influence but its action is chiefly directed toward the parasympathetic system. Toxic doses of the drug may also exert a curare-like action on skeletal muscle.

Since the present methods of management of peptic ulcer (medical and surgical) are by no means ideal, interest in the new drugs such as Banthine is easily stimulated. Much of the early investigation in the clinical evaluation of this drug was carried on by Grimson and his co-workers who reported very dramatic benefit using this drug without any additional therapy. The initial reports led to a generalized interest and widespread use of the drug with resultant controversy over the merits of this new form of therapy. In this paper an effort will be made to present some clinical observations on the use of the drug over a fourteen months' period, in addition to some personal observations with regard to indications and contra-indications.

Method

This study includes observations of sixty-three patients for periods of two to fourteen months since June, 1950. All patients included are private patients, many of whom have been treated on an ambulatory basis. In all instances the patients were treated with Banthine in addition to conventional therapy. However, most of the patients were selected for Banthine therapy because it was felt that the standard regime would not be adhered to as strictly as would be desired. The reasons for non-adherence

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were the usual ones such as pressure of business, inability to quit smoking, etc. The patients studied included the following:

Uncomplicated duodenal ulcer	24
Intractable ulcer (patients)	5
Obstructing ulcerating lesions	7
Bleeding ulcer	4
Gastric ulcer	2
Marginal ulcer	3
Post-gastrectomy syndrome	2
Pancreatitis	4
Functional bowel distress	6
Ulcerative colitis	2
Miscellaneous	4
Total	63

Three patients were considered in more than one category.

Simple Ulcer

The twenty-four patients included in this study are patients with recent onset of symptoms and no previous diagnosis of ulcer. All of these patients were placed on a standard regime, with antacids or milk every hour while awake, an ulcer diet, and Banthine 50-100 mg. every six hours. Follow-up study revealed that most of them depended more on Banthine than on the standard regime. The following table gives a summary of results in this group of twenty-four patients with acute dudenal ulcer, uncomplicated:

Prompt relief of symptoms	16
Return of symptoms while on Banthine	4
Failure of ulcer to heal in 3 months	4
Intolerance to drug	2
Increased symptoms	2

The two patients who had increased symptoms developed nausea and vomiting with marked six-hour barium retention which was relieved when the Banthine was withdrawn. In general it was felt that with two exceptions, i.e., the production of a functional type of obstruction and more dramatic relief of symptoms, the patients in this category responded in much the same manner as patients on conventional therapy. No control group was studied but it is felt that a good control group in ulcers would be very difficult to accurately establish.

One patient, in addition to an acute ulcer, had rheumatoid arthritis. She had excellent symtomatic relief of her ulcer with Banthine and excellent relief of arthritis symptoms with Cortisone. However, after two months of Cortisone therapy, she developed severe ulcer symptoms which were not relieved by strict ulcer management and Banthine. When Cortisone was stopped the ulcer symptoms subsided.

A small group of patients (four) have been followed for six months following healing of a simple ulcer on standard therapy. These patients were started on Banthine 50 mg. twice daily and instructed to increase to 200 mg. daily during periods of physical or emotional fatigue and strain or when there had been some marked dietary indiscretion. This group has had no return of symptoms.

Intractable Ulcer

Five patients with long-standing ulcer histories of five years or longer were treated and I believe present interesting problems which should be considered individually.

Case 1. Man, aged 50, business executive with ten-year history including obstructive episodes relieved by medical therapy including frequent aspiration. This patient has had marked symptomatic relief with Banthine and he controls retention with frequent aspiration of the stomach and close adherence to a strict regime. His impression is that Banthine has been a marvelous drug in giving relief of symptoms.

Case 2. Male, aged 49, lawyer, heavy cigar-smoker with ten-year-plus history of ulcer and one previous hemorrhage. Has two to three acute episodes per year. Manages ulcer well during acute episodes only. Has had marked relief of symptoms with Banthine but has had severe symptoms on occasion and one hemorrhage while on Banthine.

Case 3. Man, aged 42, recurrent ulcer treated with Banthine, followed by acute obstructive phenomena relieved only by surgical intervention. X-ray after Banthine revealed obstruction accompanied by picture resembling a carcinoma of antrum. At surgery this was found to be benign.

Case 4. Male, aged 52, college teacher and counselor, non-smoker with long history of recurrent ulcer, previous cholecystectomy for cholelithiasis. Has had history of two recurrences per year. Banthine gave marked symptomatic relief but he had recurrence of ulcer under therapy.

Case 5. Male, aged 56. Previous gastro-enterostomy. Fifteen-year history of recurrences. Better relief with Banthine than with any previous regime including one-year therapy with enterogastrone. However, he still had recurrence of his ulcer during therapy.

In summary, five patients with intractable ulcer showed good symptomatic relief

but all had recurrences and one had a massive hemorrhage under therapy with Banthine.

Obstructing Lesions

Seven patients were seen with obstructing lesions not relieved by routine therapy. None were benefited by Banthine and, although pain was relieved, one obstruction was increased. One patient believed to have had an obstructing duodenal ulcer with secondary antral gastritis became completely obstructed and at surgery was found to have a carcinoma of the antrum. This patient had relief of ulcer-type pain but increase in obstructive symptoms in a carcinoma.

OBSTRUCTING LESIONS

Diagnosis—	No.	Relief of Pain	Relief of Obstruction
Duodenal ulcer	5	3	0
Marginal ulcer	1	1	0
Carcinoma antrum	1	1	0

Bleeding Ulcer

Four patients were treated who had previous episodes of massive hemorrhage. Therapy with Banthine was begun after there was clinical evidence of marked improvement in the acute phase of the ulcer. For example, one patient who had hemorrhage and obstructive phenomena was started on Banthine only after she was symptom-free and showed no obstruction. Three of the four had recurrent bleeding while on Banthine. However, the three who bled had other complications of the ulcer as shown in the chart.

BLEEDING ULCER

Diagnosis—	No.	Symptomatic Relief	Recurrent Bleeding
Intractable	1	1	1
Obstructing	1	Partial	0
Previous gastro-enterostomy	1	1	1
Otherwise uncomplicated duodenal ulcer	1	1	0
	4	4	3

The patient with gastro-enterostomy bled from the duodenal ulcer and did not have a marginal ulcer.

Miscellaneous Conditions

In this miscellaneous group the drug was used because of the nature of the drug's effects in relaxing smooth muscle and decreasing secretion. It was felt that real benefit was derived in three patients with pancreatitis because of the marked suppression of pancreatic secretion. Also, in four patients with urinary incontinence (one an enuretic child, one a patient with a previous cerebral hemorrhage, and two senile patients) all but one senile patient was markedly improved.

Diagnosis—	No.	Relief of Symptoms	Definite Improvement in Condition
Gastric ulcer	2	1	0
Marginal ulcer	3	1	0
Cardiospasm	2	0	0
Functional bowel distress	6	1	?
Post-gastrectomy syndrome	2	1	?
Ulcerative colitis	2	0	0
Pancreatitis*	4	3	3
Urinary incontinence	4	3	3

Discussion

Banthine is a useful adjunct in ulcer therapy. In our experience, this drug produces more dramatic symptomatic relief than any other drug available. If used in conjunction with standard ulcer management it is a useful drug, but should not be relied upon without additional therapy. It is our feeling that the drug gives more dramatic relief of symptoms than would be expected from its physiological effect alone. In this way it resembles vagotomy. This pain-relieving effect may be useful or harmful. It is our feeling that symptoms may be too effectively masked and a simple ulcer may become more complicated with Banthine therapy alone.

The beneficial effects of Banthine lie in its ability to reduce the secretory activity of the gastric and pancreatic glands and to alter motility. Some alteration of motility, however, may not be an asset as has

*One patient who was not benefited had a normal-appearing pancreas at the time of surgery and the diagnosis of recurrent pancreatitis was apparently incorrect.

been demonstrated in potential pyloric obstruction. Also, in motility disturbances of the intestine Banthine may add to the functional abnormality and may complicate the disturbed motility already present in inflammatory lesions of the colon.

There has been much discussion as to the merits of Banthine in comparison to atropine and similar drugs. There is some experimental proof that in tolerance doses it is more effective than atropine. Also, the toxic effects in a therapeutic range are less marked and seem to be qualitatively different from atropine. There is more dryness, more motility disturbance (urinary retention), and fewer cardiovascular phenomena (tachycardia, etc.). It is our feeling that there are distinct qualitative effects in the clinical response to the drug which, if properly evaluated, lend toward improving the therapeutic armamentarium in duodenal ulcer. It would seem also that this drug is indicated as an adjunct in the treatment of some pancreatic disorders.

There is considerable controversy regarding the effectiveness of Banthine in relation to the healing time of ulcer craters. Some authors feel that this is prolonged with Banthine. Hall and his associates in a Tokyo Army Hospital studied the disappearance time of craters and recorded fourteen days in patients receiving Banthine and 33.7 days in patients receiving standard therapy. This result does not coincide with our impressions.

Banthine, in spite of its usefulness, should be administered with caution. In the first place, it has some toxic reactions in many individuals. Blurred vision and dryness of the mouth are the more common side effects noted by patients. Urinary retention, particularly in older individuals, may be a disagreeable result of the action of this drug. Cardiovascular phenomena such as flushing, weakness, tachycardia are uncommon, and skin rashes are unsual but may occur. In addition, some of the effects in the gastrointestinal tract itself may prove harmful. The decreased gastric motility may in some instances convert a potential obstruction into a real obstruction. For this reason, it is felt that a cicatricial obstruction, even though incomplete, is a contraindication to Banthine. Also, obstruction due to edema should not be treated with this drug until the edema has subsided. In questionable cases, if Banthine is used, frequent gastric lavage should be carried out to evaluate the ability of the stomach to empty. Finally, it is felt that in some instances Banthine dramatically relieves the pain of ulcer, and in so doing may mask important symptoms. For this reason, we do not feel that it is wise to use this durg early in ulcer therapy or with bleeding or penetrating ulcers. Also, frequently in our experience patients seem to experience a false sense of security with Banthine and neglect to follow the more constructive phases of ulcer therapy. Therefore, it is felt that Banthine has a limited place in the management of acute ulcer. It may be a very good adjunct in the late phases of ulcer therapy when the patient does not necessitate vigorous care; and, there is hope that the drug may be used to some extent to prevent recurrences of ulcer. In no way does this drug replace the time-honored Sippy-type of management with frequent feedings and alkalies. There is still no good shortcut in ulcer therapy.

Motility disorders of the gastro-intestinal tract other than the stomach are not uniformly benefited. Cardiospasm and allied motility disorders of the esophagus are aggravated by the use of Banthine. Motility of the colon and small intestine can be significantly altered but not dependably so. For this reason, it is felt that most motility disorders of the gastro-intestinal tract cannot be accurately altered in a manner that would lead to the widespread use of Banthine in functional bowel disorders.

Summary

1. A review of experience with sixty-three patients treated with Banthine has been presented.

2. Banthine, if properly used, is a helpful drug of limited value in the management of peptic ulcer.

3. Banthine may prove to be of value in prevention of recurrences of peptic ulcer.

INTRAMEDULLARY FIXATION OF THE FIBULA IN ANKLE FRACTURES*

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CHEYENNE, WYOMING

It has been felt by many authors that the time honored method of closed treatment of fractures about the ankle left something to be desired. Such fractures required long immobilization, rather long and costly hospitalization and produced only fair to indifferent results in a great many practitioners' hands. Various open surgical reductions and methods of internal fixation have been advocated periodically but have not been widely accepted because of their complexity. With the advent of intramedullary fixation it became obvious that this was a simple answer to fractures about the ankle joint. This report consists of the results of forty consecutive such fractures treated at the Kansas City General Hospital with intramedullary fixation of the fibula over a two-year period.

The reason for failure in closed reductions is primarily due to the inadequacy of the reduction. The ankle joint, a precise weight-bearing joint, must, as we know, fit to perfection, if it is to bear satisfactorily the weight of the entire body. Any small inadequacy in the reduction of fractures about the ankle, then, must of necessity result in some disability in this joint sooner or later. Consider the ankle joint as an osseo-ligamentous ring. The ring is composed of ligaments from the fibula to the tibia and from the tibia by ligaments to the astragalus and os calcis and again from the astragalus and os calcis back through ligaments to the fibula. The integrity and stability of this tightly fitting osseo-ligamentous ring are not too seriously disturbed by one single discontinuity in the ring. If, on the contrary, this ring be disrupted in more than one place as in bi- or trimalleolar fractures or in fractures of the distal fibula with diastasis, the ring becomes extremely unstable and unmanageable. For this reason, then, accurate closed reduction is accomplished with great difficulty. Control of the many fragments of the osseo-ligamentous ring is practically impossible by closed reduction. Imperfect reductions are often accepted as an alternative to open reduction. Such imperfection in anatomical reduction of the ankle sooner or later results in loss of function. Sir Percival Potts, however, pointed out in his "General Remarks on Fractures and Dislocations" that the fibula was the key or stabilizing factor in this osseo-ligamentous ring of the ankle. He pointed out that, when the fibula was

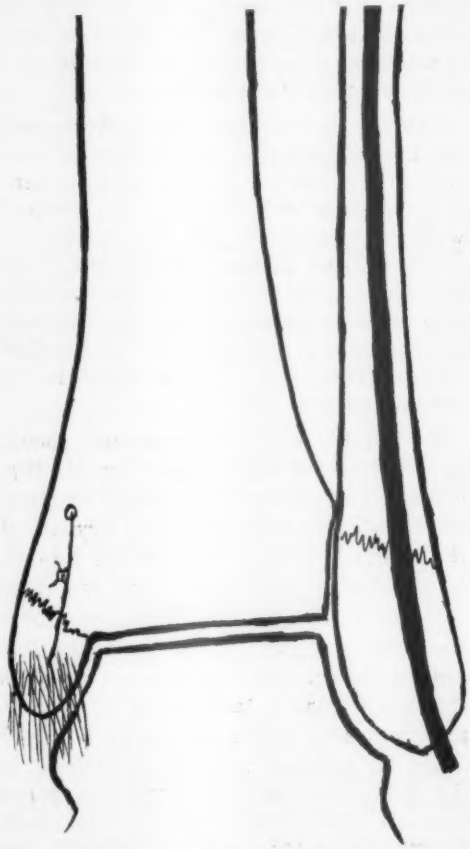


Fig. 1. The above is a diagramatic sketch of the placement of the Steinman pin in the fibula.

*Presented to the Laramie County Memorial Hospital Staff, January 2, 1952. These cases were treated on the services of Drs. Garrett Pipkin, George A. White, Richard H. Kiene and Harold Unger, with Dr. Rex L. Diveley, Chief of Orthopedic Service, Kansas City General Hospital.

broken in addition to other fractures about the ankle joint or in addition to other ligamentous tears about the joint, the joint became exceedingly unstable and difficult of treatment. This instability can be adequately controlled by intramedullary fixation of the fibula with a Steinman pin.

It is advisable to point out that this procedure is recommended only to those individuals thoroughly acquainted with the principles of open reduction and internal fixation because of the dangers inherent in such open procedures.

This method was applied to all ankle fractures with appreciable displacement.

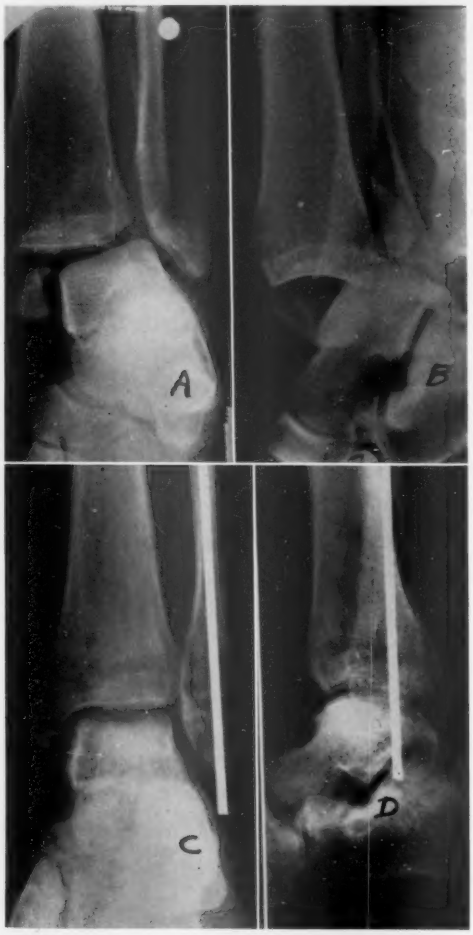


Fig. 2. Complicated multiple fractures and dislocation controlled by two simple procedures. (a) and (b) before reduction, (c) and (d) following removal of cast.

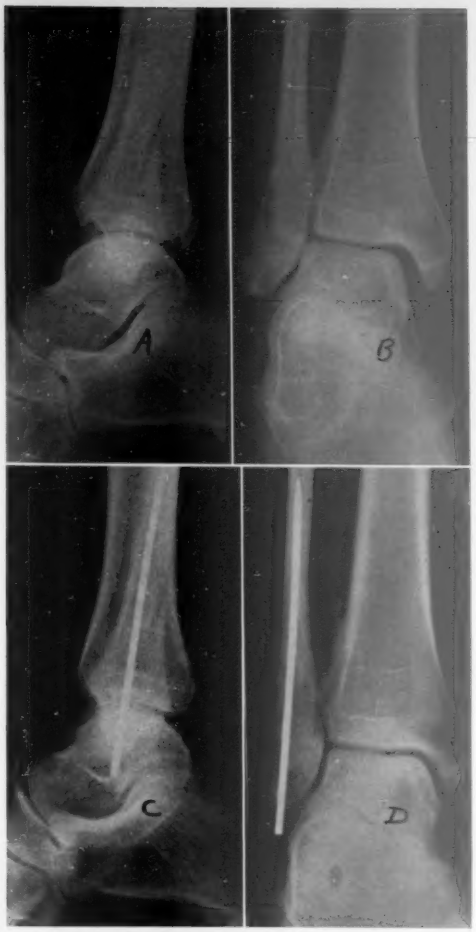


Fig. 3. Intramedullary pin acting as spring to close diastasis as well as maintaining fibular reduction. (a) and (b) before open reduction, (c) and (d) following removal of cast.

The procedure is as follows: The patient upon admission is administered morphine, reduction of any gross dislocation performed, and a boot cast applied. The patient is confined to bed with the extremity elevated and, when well prepared for surgery, open reduction of the ankle is performed. Under anesthesia the ankle is manipulated and a reduction of the fibula obtained. Following this, a small incision is made at the fibular styloid. A Steinman pin of the appropriate size is inserted into the medullary canal of the fibula under x-ray guidance. It was found that an eight-inch long, 7/64-inch diameter Steinman pin is, as a rule, the most satisfactory size. The reduc-

tion of the ankle is then found to be quite stable. Should the medical malleolus be appreciably displaced, a hockey stick incision is made over the medial malleolus, which in turn is exposed. The torn periosteal flap is removed from the fracture site and then accurate hairline reduction is obtained and maintained by means of a tenaculum. Communicating openings are made in the proximal tibia in such a fashion that one opening in the cortex is anterior and the other lateral. A strand of chromic catgut is passed through this hole and in turn down the side of the malleolus, through the deltoid ligament at the tip of the malleolus, and back up the anterior surface to be tied. The periosteum is plicated and sutured by means of plain catgut sutures and the wound closed in layers. A carefully molded non-padded plaster boot is applied over stockinette and dressings and the patient confined to bed until the immediate postoperative reaction has subsided, a period of three to five days. At this time, the patient is permitted up and about on crutches and home. At the end of two weeks, the patient is returned for a change of cast and removal of the stitches. The second boot cast is non-padded and fitted with a walking heel. This cast is then worn for a period of six weeks, at which time it is removed, and the patient is placed in a correctly balanced shoe and started on physical therapy with complete weight bearing.

Fractures of the ankle which have been included in this series consist of the following: All fractures of the distal fibula with widening of the ankle mortis have been treated by means of an intramedullary Steinman pin in the fibula and non-padded plaster. All bi- and trimalleolar fractures have been treated in the previously described fashion. When, in trimalleolar fractures, the posterior fragment was sizable and did not reduce, it was opened and fixed with a screw. All compound fractures of the ankle joint have been treated in the following fashion: The compound wound has been cleaned, debrided, and thoroughly irrigated, the extremity redraped and a Steinman pin inserted into the fibula. All wounds are tightly closed, and from there the treatment is exactly the same as with closed fractures.

Results: 1. To date our experience has been uniformly good. 2. Complications have been negligible and consist of rather marked skin loss over the medial malleolus in one elderly uncontrolled diabetic and in irritation by the protruding end of the pin in three cases, necessitating removal of the pin several months after healing of the fracture. 3. All compound fractures have healed without infection.

A comparison of this series to a similar series of fifty ankles treated at this institution by conventional closed methods revealed the following: 1. Ankles treated by open reduction have appeared by x-ray to have much more accurate anatomical reposition of the fragments and more adequate restoration of the ankle mortis. 2. These patients have returned to work at a much earlier date than those under more conventional methods of treatment. 3. Hospitalization has been markedly reduced. 4. We have been able to control the cast length to below the knee which has resulted in (a) less disturbance of knee motion, (b) more comfort for the patient and (c) earlier ambulation for the patient. 5. There is an appreciable diminution of osteoporosis as evidenced by x-ray and the lessened amount of pain on weight-bearing following removal of the cast.

One of the most important fields of usefulness in tuberculosis for the private physician is that of a mediator between the sanatorium personnel and the patient. He may on occasion be asked to enlarge upon or confirm the findings of the phthisiologist . . . The family physician is in the unique position of being able to offer the reassurance and counsel that is needed, and which will enable the patient to obtain the sanatorium care essential for his recovery.

After the tuberculosis patient is discharged from the sanatorium, the private physician again comes into the picture. After many months of "cure-taking" the patient finds himself with well people. He no longer has the companionship of his former associates in the sanatorium who were somewhat "in the same boat," but now he finds himself in the situation of having to continue a gradual rehabilitation among his relatives and friends, who are active wage earners. Whether the patient returns to an active, productive life or becomes a repeater at the sanatorium may well depend upon the constant guidance of the family physician.—Kenneth J. Feeney, M.D., J. Michigan State M. Society, November, 1949.

Q FEVER IN COLORADO*

DAVID R. BARGLOW, M.D.
TRINIDAD, COLORADO

It has been said that the story of Q fever will probably be considered as one of the most remarkable in the history of rickettsial diseases. Even the name of the disease has had its own interesting history. It is frequently stated in the literature that the term "Q" fever is an abbreviation of "Queensland fever" and that it was so designated because the disease was first described in Queensland, Australia. However, this is not correct. The "Q" does not stand for "Queensland," but rather for "Query" or "Question mark." If the letter "X" had been available the name of the new "fever entity" would probably have been "X" fever rather than "Q" fever.†

Q fever was unknown to the medical world until 1937. In that year E. H. Derrick, of Australia, published a paper in which he described nine patients who were afflicted with a "fever entity not previously differentiated." It had provisionally been named "Q fever." In the same issue of the journal, Burnet and Freeman reported the results of their laboratory investigation which established the causative agent of Q fever to be a virus, later designated Rickettsia Burneti (Derrick) or Coxiella Burneti (Derrick). Several papers appeared in 1939 and 1941, in which it was demonstrated that the etiological agent of the Australian Q fever was identical with an "American" rickettsia which produced in animals a disease called "Nine Mile Fever." The original American strain was found by Davis and Cox in wood ticks (D. Andersoni) which they had collected near Nine Mile, Montana, hence the name "Nine Mile fever."

In 1946, several reports appeared on the occurrence of Q fever in Allied military units stationed in Italy and Corsica and among troops returning from Italy in the spring of 1945. In 1947, the Journal of the AMA published a series of articles on the epidemiology, clinical picture, and serology of an epidemic of Q fever among stock handlers and slaughterhouse workers in Amarillo, Texas. In the same year Shepard reported an epidemic of Q fever among workers in a Chicago packing house.

Since then numerous papers have been written on the subject of Q fever. The important findings can be summarized as follows:

1. Q fever is being recognized with increasing frequency in many parts of the world. It occurs both in endemic and epidemic form. The mode of transmission has not been definitely established.

2. Q fever occurs primarily in persons connected with the cattle and meat industry, but it has also been found in employees of laundries, in laboratory workers who handled cultures of R. Burneti, and more recently among workers in a wool-processing plant.

3. The infecting organism has been demonstrated in raw milk and milk products. Pasteurization apparently reduces the number of, but does not entirely eliminate, Coxiella Burneti. It is known, for instance, that dairy cattle and raw milk products are the most frequent sources of infection in the Los Angeles area.

4. Q fever can be transmitted from person to person. To my knowledge there are only two reports of this form of transmission. The latest report comes from England. The patient died. Four persons who attended the patient during his illness and at the autopsy subsequently came down with Q fever. One of the pathologists spiked a fever as high as 105°, but he recovered.

If Q fever then occurs much more frequently than suspected the question arises: Why has it not been recognized until 1937?

*Presented in part at the Eighty-First Annual Session of the Colorado State Medical Society, September 18-21, 1951, in Denver, Colorado.

†In a personal communication Derrick writes as follows: "I was unaware till my visit to America last year that I had raised an international problem in that the word 'Query' is rarely used in America. Here we often refer to the sign '?' as a query stop, and that was the meaning in my mind—the disease whose nature is still a question. The letter more commonly used for an unknown quantity—'X'—was already preoccupied by Australian encephalitis."

The main reason is that most of the cases of Q fever resemble influenza rather than a rickettsial disease. There is no rash and the Weil-Felix reaction is negative.

To my knowledge, there are no reports in the medical literature of Q fever occurring in Colorado. The following case report is therefore considered to be of general interest.

CASE REPORT

J. G., 53-year-old male, had worked in coal mines for forty-two years, starting at age 11. He became ill suddenly on August 26, 1950. Chief symptoms at time of onset: Weakness, anorexia, fever, severe headache, sweating, attacks of pain in left hypochondrium which radiated to left side of chest, anteriorly and posteriorly. He was first seen at his home on August 30, four days after he became ill. T:101, P:78, R:26, BP:120/80. Examination of the lungs showed moderate hyporesonance and hypopnea over the right base with inconstant fine moist rales. All other findings were within normal limits.

Atypical pneumonia was the presumptive diagnosis. Since he refused to be hospitalized, he was treated at home with penicillin (600,000 units daily) and aureomycin (1,500 to 2,000 mg. daily). There was moderate improvement for the first few days, but after one week he became worse; his fever went up to 104. There was extreme weakness, drowsiness and profuse sweating. On September 11 (sixteen days after onset), he finally agreed to be hospitalized.

The findings on admission were essentially the same as described above. In addition he had become greatly apprehensive about his condition. Blood examination showed a normal red count with a white count of 9,850 and a normal differential count. Agglutination for typhoid, paratyphoid A and B, brucelosis and protein 0x19 was negative. Tuberculin test was negative. Electrocardiogram was within normal limits. X-ray of the chest (Fig. 1) showed nodular and granular changes in both lung fields. This was considered to be due to the forty-two years of mine work. There was also an area of infiltration in the right base which was interpreted as "atypical pneumonia of the virus type." Aureomycin was discontinued after having been administered for one week without the patient improving. Penicillin was continued and streptomycin started on September 11, gantrisin on September 13, chloromycetin on September 14.

This does not appear to be a scientific approach and may be open to criticism. However, we have here a patient, critically ill, greatly apprehensive, with chills, fever, sweat, drowsiness, malaise and anorexia. There was no definite clinical diagnosis and no response to two weeks' treatment. I believe when confronted with a patient of this kind the physician is justified in deviating from the scientic approach if it appears to be in the interest of the patient.

Because of the protracted course of the disease and because of the poor response to intensive antibiotic and chemo-therapy, the possibility of Q fever was considered. Blood was sent to the Rocky Mountain Laboratory at Hamilton, Montana. And the complement fixation was reported positive in dilution 1:64. One week later it was reported positive in dilution 1:128, and later on in his convalescence in a titer of 1:768.*

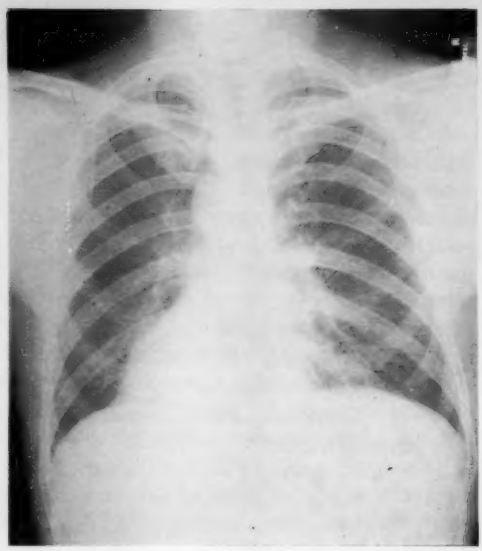


Fig. 1

The clinical symptoms in combination with a rising titer of antibodies in successive samples definitely established the diagnosis of Q fever in this patient.

He improved gradually. X-ray of the chest on September 30 showed slight clearing in the right cardiophrenic angle; on November 3 the cardiophrenic angle was clear.

The convalescence was prolonged and for several months after leaving the hospital he complained of weakness. However, since that time he returned to his regular job in the mine.

No definite statement can be made as to response of our patient to treatment, and it is quite possible that the recovery was independent from any drugs given. However, from the reports in the literature, it appears that aureomycin, chloromycetin, and terramycin would be the drugs of choice. In the presented case aureomycin and chloromycetin were administered.

No source of infection could be traced in the presented case. Thorough questioning brought forth two facts of possible importance:

1. The patient had been on a picnic on July 4, but that was seven weeks before he became ill; moreover, he did not know of any tick bites.

*The following notation accompanied the report: "Although this serum was anticomplementary, there was sufficient difference between the reactions with heterologous antigens and Q fever to assign a specific titer of 1:768 for Q fever complement-fixing antibodies."

2. He did eat goat cheese. At the time the diagnosis was made none of that cheese was available for possible testing. However, since other members of the household had eaten the same goat cheese, their blood specimens, four in all, were sent to the Montana laboratory. All were reported negative. Apropos of this, David B. Lackman, scientist at the laboratory, stated in a personal communication:

"Q fever often resembles Brucellosis as regards multiple cases: Frequently it will be found that several individuals in a family or occupational group are apparently exposed to the same source of infection, yet only one or a very few members of the group will develop the disease. In the February, 1951, issue of the American Journal of Public Health, Dr. Dalrymple-Champneys discusses this phenomenon in relation to brucellosis."

In the cited article the British author states that in his series of one thousand cases of brucellosis in only seven instances could he find the disease occurring in more than one member of a household.

This fact, of course, is true of many other infectious diseases. There is a factor of individual susceptibility and individual resistance, for which we have no adequate explanation. One has only to think of the famous experiment of Pettenkoffer and Emmerich.

Pettenkoffer was professor of hygiene at the University of Munich, in the early era of bacteriology, and he was quite convinced that the new-fangled theory that bacteria caused disease was plain nonsense. Robert Koch had just returned from his scientific expedition to Egypt and India and maintained that cholera was caused by the cholera bacillus. However, Pettenkoffer was going to prove once and for all that such was not the case. So, standing in front of his class, both Pettenkoffer and Emmerich, his assistant, drank some of a fresh culture of cholera vibrio. And what happened? Pettenkoffer developed a mild diarrhea, but Emmerich came down with a severe case of cholera and came near losing his life.

In our case we were, therefore, not too surprised to receive negative reports on the other members of the family.

As I mentioned previously there are no reports in the literature of Q fever occurring in Colorado. However, according to information received from Dr. Martin D. Baum of our State Board of Health two other persons have definitely contracted Q fever in Colorado: they were two itinerant laborers in Weld County; they both recovered. They had lived in a trailer camp and their trailer was backed up to a livestock yard. There was, of course, a rapid turnover of cattle, and at the time the diagnosis was made it would have been futile to attempt to locate any infected cattle.

At a private discussion of the problem with officials of the State Board of Health the consensus of opinion was that Q fever occurs much more often in Colorado than has been hitherto suspected.

We in practice frequently see patients with protracted febrile diseases which we are unable to diagnose definitely and that do not respond to treatment. Fortunately, most of them finally get well and leave the hospital with the diagnosis of "fever of undetermined origin." In these cases we should suspect Q fever, and particularly in those patients "with a high fever of acute onset, accompanied by a severe headache, a comparatively slow pulse rate and no other obvious localizing symptoms." The last part of this statement of Derrick's needs some modification, at least in regard to Q fever in this country. It appears that a large percentage of the cases reported in the United States had pulmonary involvement. It is possible that the Australian cases also had pulmonary involvement, but no chest x-rays were taken.

There are several reasons why we should familiarize ourselves with the clinical picture of Q fever:

1. It is in the interest of the practice of scientific medicine.

2. An early diagnosis should contribute to shorten the course of the disease.

3. Untreated patients show a mortality rate of 1 to 2 per cent.

4. The Q fever virus has been mentioned on numerous occasions as a suitable germ for biological warfare. Cattle can easily be infected without showing symptoms of disease and then, unless suspected and examined, become a source of infection to humans.

Summary

A case of Q fever in Colorado is reported. There is reason to assume that the disease occurs in Colorado in endemic form. The possible role of Q fever in bacteriological warfare is briefly discussed.

It is believed that we should be able to diagnose Q fever more frequently if we were on the alert to suspect it:

1. In any patient with a severe persistent headache, protracted obscure fever, and a relatively slow pulse.

2. In any patient with atypical pneumonia that does not respond to conventional therapy.

REFERENCES

[1]Derrick, E. M.: "Q Fever," a New Fever Entity: Clinical Features, Diagnosis and Laboratory Investigation, Med. J. Australia 2:281-299 (1937).
[2]Burnet, F. M., and Freeman, M.: Experimental Studies on the Virus of "Q" fever, ibid. 299-305.
A complete reference list is being published elsewhere: Barglow, D.R.: History and the Present Status of Q Fever. (Practice of Medicine, Edited by F. Tice: W. F. Prior Co., Hagerstown, Maryland.

MATERNAL and CHILD HEALTH

Case Report: Surgical Treatment of Tracheo-Esophageal Fistula (a formerly fatal congenital defect).

The patient is a full-term infant girl, born December 17, 1951. The pregnancy and delivery were not remarkable. The birth weight was 3,345 grams. No abnormalities were noted until feedings were started. These were promptly and consistently vomited, and on the fourth day an attempt at gavage was unsuccessful because the catheter could not be passed into the stomach.

The patient was transferred to Denver General Hospital on the fifth day of life with a diagnosis of possible tracheo-esophageal fistula. The weight had fallen to 2,770 grams and the baby was quite dehydrated. Other findings at this time were coarse rales in both lungs with slight dullness and suppressed breath sounds at the right base. There was considerable thick muco-purulent material in the pharynx. Another attempt to pass a rubber catheter down the esophagus resulted in obstruction at 5-6 cm. X-rays showed patchy areas of increased density in the chest and the tip of the catheter at the level of the first rib anteriorly. Gas was present in the intestinal tract, suggesting a fistula between the trachea and distal esophagus.

Treatment

Because of the severe dehydration, operation was postponed sixteen hours, during which time the infant's fluid balance was restored by venoclysis of 500 c.c. of 5 per cent glucose in water. Sodium sulfadiazine—5.0 c.c. (5 per cent solution) twice daily, penicillin—100,000 u. q4h and streptomycin—25mg. q4h, were also given. On December 22, 1951—ligation of a tracheo-esophageal fistula with end-to-end anastomosis of the incomplete esophagus was performed. In addition, a gastrostomy and tracheostomy were done. The infant withstood the procedures well in spite of having a long defect in the oesophagus. The postoperative course was afebrile and x-rays showed some clearing of the lung fields. The baby was fed by gastrostomy tube until January 5, 1952, when oral feedings were started. The gastrostomy was closed January 14, 1952. The patient did fairly well, but had mild cyanosis much of the time and gained weight very slowly. The only gastrointestinal symptom was occasional regurgitation. The stools were normal. The prognosis for complete recovery is considered to be good, without the necessity of any subsequent surgical procedures.

Comments

Although there are several modifications of tracheo-esophageal fistula, the most common is the one illustrated by this case—incomplete formation of the esophagus with the upper segment, ending in a blind pouch and the lower segment connecting the stomach to the trachea at the level of the bifurcation.

The diagnosis can be made rather easily, if one has the defect in mind, and should be suspected in any newborn which has an unusual amount of oral mucous and promptly regurgitates water or formula. The failure to pass a soft rubber catheter down the esophagus usually confirms the diagnosis. Introduction of a small amount of lipiodol has been recommended as a confirmatory measure, but this is seldom necessary and the oil may be aspirated.

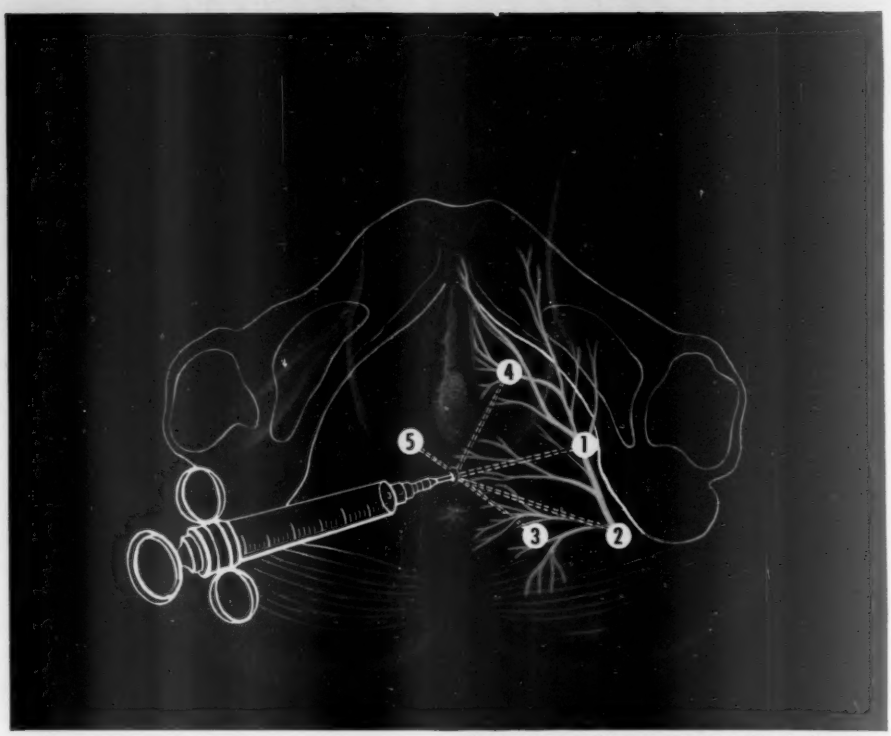
The physician's responsibility in this type of case is to make the diagnosis and obtain proper surgical correction as soon after birth as possible. This will greatly reduce the danger of aspirating mucous or formula and will permit the baby to be operated on while it is vigorous and well hydrated. Regurgitation of gastric juice through the fistula is also a hazard. If extensive pneumonia and dehydration have not occurred, the extensive surgery can be carried out in one operation and the prognosis greatly improved.* In the present case, tracheostomy was performed to treat the aspiration pneumonia. Under ideal circumstances, it would not be necessary.

Postoperative feeding is usually given through the gastrostomy tube for ten days, at which time oral feeding (water is offered at first) may be started. As soon as oral feeding is established the gastrostomy is permitted to close.

One should always examine these patients carefully for the presence of other congenital defects of the gastro-intestinal tract or other structures.

This case is presented to emphasize the recent improvement in prognosis for this particular type of congenital defect which used to be almost uniformly fatal to the newborn.

*Swenson, Orva: (1) J. Pediatrics, Vol. 1, 195-203, 1948; (2) Texas J. Med., Vol. 46, 673-675, 1950.



Sites for injection of local anesthesia in obstetrics. Sites 1 to 4 should be similarly injected on the contralateral side. Site 5 is for episiotomy. Adapted from Johnson, O. J.: Nerve Block in Painless Childbirth, J.A.M.A. *145*:401 (Feb. 10) 1951.

Pudendal Block in Obstetrics Simplified with **ALIDASE**

Using a local anesthetic with hyaluronidase, Heins[1] reports: "Complete perineal anesthesia is practically instantaneous. . . . The technique of pudendal block is greatly simplified. The operator does not have to inject the nerve per se, but infiltration in the vicinity of the nerve will accomplish an effective block."

Baum[2] states: "The use of hyaluronidase is found to be a safe and simple method for increasing the efficiency of pudendal block in obstetrics and for overcoming many of the objections to this type of obstetrical anesthetic."

ALIDASE®—highly purified, well tolerated brand of hyaluronidase—definitely shortens the period between completion of the block and establishment of operating analgesia. Swelling, induration and discomfort are almost negligible with Alidase.

[1]Heins, H. C.: Pudendal Block with Hyaluronidase, J. South Carolina M. A. *46*:309 (Oct.) 1950.
[2]Baum, F. E.: The Use of Hyaluronidase in Pudendal Block, Am. J. Obst. & Gynec. *60*:1356 (Dec.) 1950.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

Organization

NEW MEXICO Medical Society

SEVENTIETH ANNUAL SESSION NEW MEXICO MEDICAL SOCIETY

May 8, 9, 10, 1952 — Carlsbad, New Mexico

Hosts: Eddy and Lea County Medical Societies

General Information

Headquarters: Ballroom, Elks Hall, Carlsbad.

The registration desk, scientific sessions, technical, scientific and hobby exhibits will be held in the Elks Hall.

Members of the medical profession, their wives, guests, nurses, medical students, and interns may register.

The registration desk will be open on Wednesday evening, May 7, from 5:00 to 9:00, and daily thereafter.

Wednesday, May 7

The Council of the New Mexico Medical Society will meet for dinner at 7:00 p.m.

Thursday, May 8

MORNING

8:00-12:00—House of Delegates.

12:00—Annual Meeting of the New Mexico Trudeau Society at the Riverside Country Club. J. Gordon Strance, M.D., Albuquerque, will speak on "Diagnosis and Treatment of Tumors of the Lung."

AFTERNOON

1:00—Opening ceremonies. Presidential Address, Coy S. Stone, M.D., Hobbs.

2:00—First scientific session. Speakers will include:

Internal Medicine—Walter C. Alvarez, M.D., Chicago, Illinois.

Pediatrics—"Fever Convulsions," M. G. Peterman, M.D., Milwaukee, Wisconsin.

Radiology—"The Roentgen Diagnosis of Gastro-Intestinal Lesions," Curtis H. Burge, M.D., Houston, Texas.

Orthopedics—Marshall R. Urist, M.D., Los Angeles, California.

E.E.N.T.—To be announced.

EVENING

A smoker will be held at Riverside Country Club at 6:30 p.m. Host will be Eddy County Medical Society.

Friday, May 9

Scientific sessions will begin at 9:00 a.m. and continue until 5:00 p.m. Three sectional luncheons on Surgery, Medicine, and E.E.N.T. will be held Friday noon.

Included on the scientific program will be the following:

"Medical Practice Forty Years Ago and Now."

"Coronary Heart Disease," Paul Dudley White, M.D., Boston.

Pediatrics—"The Treatment of Epilepsy in Children," M. G. Peterman, M.D., Milwaukee.

Radiology—"Routine Skull Films in the Diagnosis of Intracranial Lesions," Curtis H. Burge, M.D., Houston, Texas.

Obstetrics-Gynecology—"Obstetrical Hemorrhage," William F. Mengert, M.D., Dallas, Texas.

Internal Medicine—Walter C. Alvarez, M.D., Chicago, Illinois.

Orthopedics—Marshall R. Urist, M.D., Los Angeles, California.

Urology—"Prostatic Surgery and Kidney Surgery," Oswald S. Lowsley, M.D., New York City.

E.E.N.T. Surgery—To be announced.

EVENING

The Presidential Banquet will be held Friday evening at 7:30, at Riverside Country Club, for doctors, wives, and guests. Informal.

Banquet speaker will be Colonel Jack Major, Paducah, Kentucky—"Taxes, Women and Hogs."

Saturday, May 10

Scientific sessions will be held from 9:00 a.m. to 12:00 m., and will include:

Obstetrics-Gynecology—"Pelvic Pain," William R. Mengert, M.D., Dallas, Texas.

Urology—Oswald S. Lowsley, M.D., New York City.

General Surgery—To be announced.

WOMAN'S AUXILIARY

The third annual meeting of the Woman's Auxiliary to the New Mexico Medical Society will be held Friday, May 9, at 10:00 a.m., in the Community Room of the Southern Union Gas Company. Mrs. Philip L. Travers, President, will preside. Included on the agenda will be amendments to the Constitution and By-Laws, election of oficers, and adoption of a state program for the year 1952-53.

A special luncheon for the State Officers, Executive Committee, and County Auxiliary Presidents will be held at 12:30 p.m., Thursday, May 8.

Other activities planned for the ladies include:

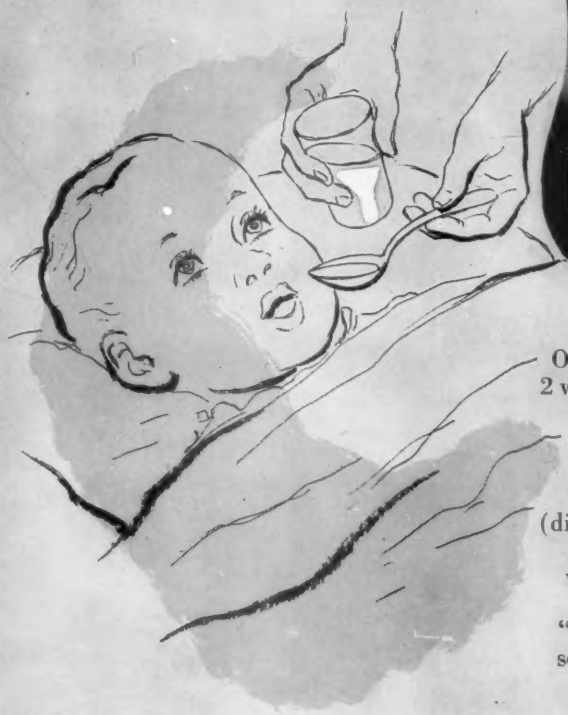
Thursday, May 8, 6:30 p.m.—Buffet supper at the home of Dr. and Mrs. G. C. Hogsett, 711 Riverside Drive, as guests of Lea and Eddy County ladies. Planned for out-of-doors.

Friday, May 9, 1:00 p.m.—Luncheon, Carlsbad Woman's Club, guests of Lea and Eddy County ladies.

Friday, May 9, 7:00 p.m.—Presidential Banquet for doctors, wives, and guests at Riverside Country Club. Informal.

citrus is virtually

NON-ALLERGENIC



TYPICAL PATCH TEST

Over 400 infants and children from 2 weeks to 6 years of age acted as test subjects to check the incidence of sensitivity to orange juice. After 2 to 12 months' observation,* "no disturbance of bowel function (diarrhea or constipation) that could be attributed to the orange juice" was found. Also, the occurrence of regurgitation and rashes was "minimal". In the rare instances of sensitivity, care exercised by gentle reaming of juice (or the use of frozen concentrate) to avoid contamination with peel oil usually obviates the difficulty.

**J. Pediat. 39:325, 1951*

FLORIDA CITRUS COMMISSION • LAKELAND, FLORIDA

FLORIDA *citrus*

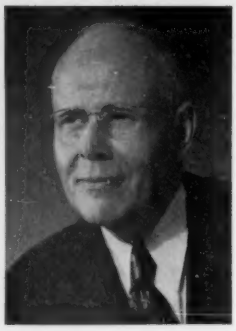
ORANGES • GRAPEFRUIT • TANGERINES

Guest Speakers

William F. Mengert, M.D., Dallas, Texas. Professor and Chairman of Department of Obstetrics and Gynecology, Southwestern Medical School of the University of Texas.

M. G. Peterman, M.D., Milwaukee, Wisconsin. State Chairman of the American Academy of Pediatrics; Head of the Section of Pediatrics, Milwaukee County Hospital.

Walter C. Alvarez, M.D., Chicago Illinois. Former consultant in medicine at the Mayo Clinic and Professor of Medicine at the Mayo Foundation of the University of Minnesota; professorial lecturer at University of Illinois.



Oswald S. Lowsley, M.D., New York City. Past President, American Urological Association; Fellow, American College of Surgeons and the International College of Surgeons.

Curtis H. Burge, M.D., Houston, Texas. Diplomate, American Board of Radiology; Director, Department of Radiology, Methodist Hospital, Houston.

Colonel Jack Major, Paducah, Kentucky. Farmer, Economist and Humorist.

Paul Dudley White, M.D., Boston, Massachusetts. Executive Director, National Advisory Heart Council; Consultant in Medicine, Massachusetts General Hospital; Clinical Professor of Medicine, Harvard Medical School.

EXHIBITS

Technical exhibits will be displayed by the following companies:

Allied Medical Supply, Inc., Albuquerque, New Mexico.
A. S. Aloe, St. Louis, Missouri.
Ayerst, McKenna & Harrison, New York City, New York.
The Baker Company, Albuquerque, New Mexico.
G. W. Carnrick Company, Newark, New Jersey.
Charles Pfizer & Company, Inc., Brooklyn, New York.

Ciba Pharmaceutical Products, Inc., Summit, New Jersey.
Denver Fire Clay Company of Texas, El Paso, Texas.
Eli Lilly & Company, Indianapolis, Indiana.
Esco Bio-Chemical Company, Albuquerque, New Mexico.
General Electric Company, Dallas, Texas.
M & R Laboratories, Columbus, Ohio.
Mead Johnson & Company, Evansville, Indiana.
Parke, Davis & Co., Detroit, Michigan.
A. H. Robins Company, Inc., Richmond, Virginia.
G. D. Searle and Company, Chicago, Illinois.
Southwestern Surgical Supply Company, El Paso, Texas.
E. R. Squibb & Sons, New York City, New York.
U. S. Vitamin Corporation, New York City, New York.
Winthrop Stearns, Inc., New York City, New York.

Scientific and hobby exhibits will also be displayed.

CAVERN TOURS

There will be two tours of Carlsbad Caverns each morning. Information concerning the tours may be obtained at the registration desk.

COLORADO
State Medical Society

Have You Something For the State Meeting?

Any member of the Colorado State Medical Society who wishes to apply for a place on the Annual Session program this year is urged to write immediately to the Committee on Scientific Work, 835 Republic Building, Denver 2. Chairman Paul Sheridan states that several "spots" on the program are open for papers by members, but all applications to be considered must be received before May 15.

The Annual Session this year will be held September 9 to 12, inclusive, in Estes Park, with headquarters at the Stanley Hotel.

The committee especially urges members "from outside the Denver area" to apply for places on the program this year, and has stated that in recent years there has appeared to be an unjustified reticence on the part of members in the smaller cities and towns to apply for positions on the scientific program. There is no set form for an application, which can be as informal as the member desires. A letter to the committee is recommended, and should include a suggested title for the papr and a brief description of the subject matter contemplated.

THE HENRY SEWALL LECTURE

The Sewall Lecture will be given by Dr. Levine Tuesday evening, April 15 at 8:15, in the Denison Auditorium. His subject will be "A Plea for the Stethescope." The Nu Sigma Nu lecture will be given by Dr. Sosman on Thursday evening, April 17 at 8:15, in the Denison Auditorium. His subject will be "Experiences With Cushing's Disease."

PROGRAM

TWELFTH ANNUAL WESTERN COLORADO SPRING CLINIC

R. E. Orr, M.D., President, Mesa County Medical Society

Friday, April 18, 1952

MORNING SESSION

An official meeting of the Board of Trustees, Colorado State Medical Society, will be held in conjunction with the clinic.

10:00-12:00—Registration, Lobby, La Court Hotel.

AFTERNOON SESSION

E. H. Munro, M.D., Presiding

Welcome and introduction, Board of Trustees, Colorado State Medical Society.

1:30-2:15—M. M. Wintrobe, M.D., "Diagnosis and Treatment of Anemia."

2:15-2:25—Discussion opened by G. Paul Smith, M.D.

2:25-2:55—Thomas F. Keyes, M.D., "Coarctation of the Aorta."

2:55-3:00—Discussion opened by Ernest M. Tapp, M.D.

3:00-3:45—Paul D. Bruns, M.D., "Toxemias of Pregnancy."

3:45-3:55—Discussion opened by R. J. Groom, M.D.

3:55-4:25—John B. Grow, M.D., "Differential Diagnosis of Hiatus Hernia."

4:25-4:30—Discussion opened by Leo W. Lloyd, M.D., Durango.

4:30-5:00—Lawrence K. Gundrum, M.D., "Cytology of Ear, Nose and Throat Secretions."

6:00-7:00—Social Hour.

7:00-8:00—Dinner, Green Room, La Court Hotel. Toastmaster, James P. Rigg, M.D.

8:00—Al Look, "Prehistoric Life in Western Colorado."

Saturday, April 19, 1952

MORNING SESSION

Paul J. White, M.D., Glenwood Springs, Presiding

8.30- 8:45—"Some Unsolved Problems of Organised Medicine," Harry C. Bryan, M.D., President, Colorado State Medical Society.

8:45- 9:00—"Reorganized Department of Public Relations of A.M.A.," Harvey T. Sethman, Executive Secretary, Colorado State Medical Society.

9:00-10:00—Symposium on Peptic Ulcers, William H. Mast, M.D., and R. O. Turek, M.D., Medical and Surgical Clinic, Cleveland, Ohio. Moderator, Thomas K. Mahan, M.D.

10:00-10:40—"Recent Advances in the Treatment of Children's Diseases," Seymour E. Wheelock, M.D.

10:40-10:50—Discussion opened by H. M. Tupper, M.D.

10:50-11:30—Sidney H. Dressler, M.D., "Clinical Application, Pulmonary Function Tests."

11:30-11:45—Discussion opened by Stanley B. Crosbie, M.D.

11:45- 1:30—Luncheon, Green Room, La Court Hotel. G. Paul Smith, M.D., Presiding.

AFTERNOON SESSION

L. L. Hick, M.D., Delta, Presiding

1:30-2:15—John B. Grow, M.D., "Diagnosis and Management of Circumscribed Lesions of the Lung."

2:15-2:25—Discussion opened by Joseph G. Merrill, M.D.

2:25-2:55—Lawrence K. Gundrum, M.D., "Etiologic Analysis of 100 Cases of Meniere's Symptom Complex."

2:55-3:05—Discussion opened by Richard Waldapfel, M.D.

3:05-3:35—Thomas F. Keyes, M.D., "Treatment of Cardiac Arrest."

3:35-3:45—Discussion opened by George Doherty, M.D.

3:45-4:30—John Z. Bowers, M.D., "Radioactive Isotopes."

4:30-4:45—Discussion opened by Joe Lewis, M.D.

6:30-7:30—Social Hour, Sample Rooms, La Court Hotel.

7:30—Dinner Dance, Green Room, La Court Hotel.

1951 SUPPLEMENT TO REVIEWS OF MEDICAL MOTION PICTURES NOW AVAILABLE

The Committee on Medical Motion Pictures has completed the 1951 supplement to the second revised edition of the booklet entitled "Reviews of Medical Motion Pictures." This supplement contains ninety reviews of medical and health films reviewed in The Journal of the A.M.A. from January 1, 1951, through December 31, 1951. Each film has been indexed according to subject matter. The purpose of these reviews is to provide a brief description and an evaluation of motion pictures which are available to the medical profession.

Copies have been sent to the Secretary of each of the State Medical Societies. Complimentary copies will be sent to county medical societies and other medical organizations upon request, from: Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

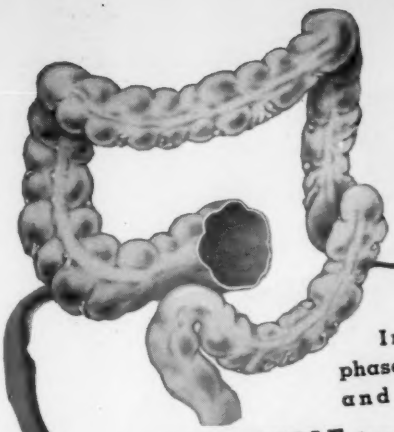
Obituary

T. CLARKSON TAYLOR

Dr. Taylor was born in Louden County, Virginia, November 18, 1865, and died at Fort Collins, Colorado, January 10, 1952, at the age of 86. He graduated from the Philadelphia School of Pharmacy in 1888 and received his M.D. degree from the University of Pennsylvania in 1892. After practicing medicine at Wilmington, Delaware, from 1895 to 1905 he came to Fort Collins, Colorado, where he practiced until his death.

Except for brief periods he was Fort Collins City Health Officer and also School Physician from 1915 to 1952. He was Larimer County Health Officer and Physician in a similar manner from 1922 to 1929. He was a member of the Masonic Lodge. During World War I he served on the County Draft Board; was in the Army Medical Corps at Fort Leavenworth, Kansas, and served as a Captain in France. He was a member of the Larimer County Medical Society, the Colorado State Medical Society, and the American Medical Association.

It was Dr. Taylor's goal to be always a fine, cultured gentleman and an ethical, responsible physician. From that goal he never wavered.



"Efficiency... unquestioned."[1]

In controlling the active phases of NONSPECIFIC PROCTITIS and ULCERATIVE COLITIS . . .

NISULFAZOLE demonstrates striking initial improvement in general symptoms, and in reduction in number of stools. In protologic conditions, too, this sulfonamide brings highly satisfactory improvement with consequent better results.

Because it exerts "focal" action at the usual origin of the disease (rectum and proximal colon), NISULFAZOLE brings rapid relief and satisfactory end results, with some cases showing complete arrest for periods of more than one year.[2]

NISULFAZOLE, administered intrarectally, as a retention enema, tends to reduce lysozyme . . . checks indigenous bacteria . . . arrests necrosis. Consequent symptomatic improvement and high incidence of remission are welcomed by both physician and patient.

In your most refractory cases of NONSPECIFIC ULCERATIVE COLITIS and PROCTITIS, specify

NISULFAZOLE®

10% Suspension —
Brand of Paranitrosulfathiazole

Available in bottles containing 10 fluidounces.

Write Dept. 27M for literature

1. Wills, C. B.: Rocky Mtn. Med. J. 46:743, Sept. 1949.
2. Swigert, William B.: J. Int. Coll. Surg., 14:714, Dec. 1950.

BREON

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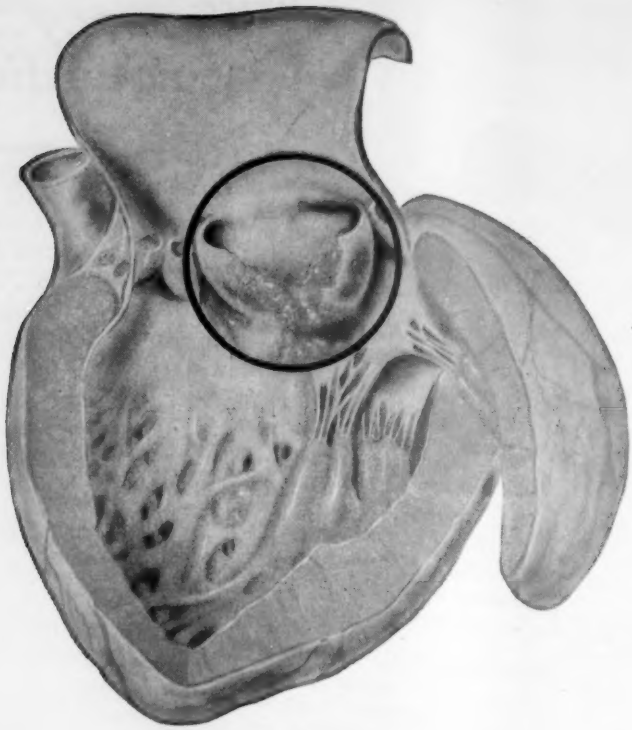

in acute bacterial endocarditis:

Terramycin therapy was instituted on eleventh day of illness and continued for 53 days in a case of Staphylococcus aureus septicemia with acute mitral endocarditis, complicated by left-sided hemiplegia, which failed to respond to sulfadiazine and penicillin. "Progressive gradual improvement ensued." Patient discharged cured on 59th hospital day with recovery "apparently complete except for a persistent apical systolic murmur and weakness of the left foot."

Blake, F. G.; Frieu, G. J., and Wagner, R.R.: Yale J. Biol. and Med. 22:495 (July) 1950.

ANTIBIOTIC DIVISION Pfizer

Terramycin is also indicated in a wide range of

terramycin

GRAM-POSITIVE BACTERIAL INFECTIONS

Lobar pneumonia • Mixed bacterial pneumonias
Bacteremia and septicemia
Acute follicular tonsillitis
Septic sore throat • Pharyngitis
Acute and chronic otitis media
Acute bronchitis • Laryngotracheitis
Tracheobronchitis • Sinusitis
Chronic bronchiectasis
Pulmonary infections associated with pancreatic insufficiency
Scarlet fever • Urinary tract infections
Acute and subacute purulent conjunctivitis
Acute catarrhal conjunctivitis
Chronic blepharoconjunctivitis not involving the meibomian gland
Abscesses • Cellulitis
Furunculosis • Impetigo
Infections secondary to Acne vulgaris
Erysipelas • Peritonitis

GRAM-NEGATIVE BACTERIAL INFECTIONS

Gonorrhea • Brucellosis
Bacteremia and septicemia
Friedländer's pneumonia
Mixed bacterial pneumonias
Pertussis • Diffuse bronchopneumonia
Post-partum endometritis • Granuloma inguinale
Dysentery • Urinary tract infections
Respiratory tract infections
Cellulitis • Peritonitis • Tularemia

SPIROCHETAL INFECTIONS

Syphilis • Yaws • Vincent's infection

RICKETTSIAL INFECTIONS

Epidemic typhus • Murine typhus
Scrub typhus • Rickettsialpox
Q fever • Rocky Mountain spotted fever

VIRAL INFECTIONS

Primary atypical pneumonia (virus pneumonia)
Lymphogranuloma venereum • Trachoma

PROTOZOAL INFECTIONS

Amebiasis

Available as

CAPSULES
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INTRAVENOUS
OPHTHALMIC OINTMENT
OPHTHALMIC SOLUTION

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Component Societies

EL PASO COUNTY

The regular monthly meeting of the El Paso County Medical Society was held March 12 at the El Paso Club.

Drs. Judge, Hayes, and Pirkey were elected into the society by transfer. Dr. R. Meatheringham gave his second reading for membership and was unanimously elected by closed ballot.

Scientific talks were given by Drs. W. Stevens, "Something New in Psychiatry;" and John McConnell, "Infarction of the Brain Without Thrombosis."

A resolution was formulated and enacted relative to the manner of "garbage-trash disposal in Colorado Springs."

EVERETT C. CROUCH, M.D.,
Secretary.

THE CRIPPLED CHILDREN'S SOCIETY

The Colorado Society for Crippled Children was incorporated in 1927. The phrase "and Adults" was added in the reorganization of 1939. As it has matured, the Crippled Children's Society has become a leading force in the health field in Colorado. This Society is an affiliate of the National Society for Crippled Children and as such is one of the oldest voluntary programs in behalf of crippled children and adults in the state and nation.

Its scope of services is based on meeting valid "unmet" needs of the crippled and physically handicapped as approved by the State Medical Advisory Board working with the Society. An example is the Society's work in developing and creating services for the cerebral palsied consisting of a cerebral palsy division, a complete treatment program and fellowships for physicians and therapists in the cerebral palsy field.

The principal services of the Society maintained for the private physician is the Treatment Center, known as Sewall House, in Denver. The newest state-wide service is the HandiCamp for Crippled Children near Idaho Springs. This is the only crippled children's camp between the Mississippi River and the Pacific Coast. One of the older services is the Alpha Chi Omega special equipment pool used most effectively for treatment cases in the home and community throughout the state. The Society maintains the Medical-Social Service program of the Colorado Epilepsy Service. This program is now treating over 1,000 cases. Physical therapy, occupational therapy, and speech therapy clinics are maintained throughout the state, and thousands of individual services for cases referred by physicians are available through the County Societies. There are over 1,500 citizens in the various counties of Colorado who act as trustees and advisors, as well as performing services to the county and state groups. These citizens act voluntarily and whenever feasible incorporate themselves within the structure as county units.

The prime source of revenue for the Crippled Children's Society is from the annual sale of Easter Seals for Crippled Children. Since many new groups interested in certain aspects of the crippled child have come into being, their adoption of the "Help Crippled Children" and "Easter Seal Plan" of the Crippled Children's Society has caused a material fund-raising upheaval and consequent problem for the Crippled Children's Society. Private physicians only can use this "must pay as you are able" program maintaining the integrity of the individual, the unity of the family carrying out the wishes of that particular family physician. The Colorado Society also

makes available the services of the National Society for Crippled Children and Adults, which in turn maintains liaison with the various academies and the American Medical Association and its constituent groups. The principal types of the physically handicapped that are being served by the Society are rheumatic fever, speech disorders, hearing difficulties, cerebral palsied, post-polios, epilepsy, tuberculosis, emotional problems, congenital deformities, and other orthopedic conditions. There are over fifty physical conditions being served at the present time.

The medical direction of the Colorado Society for Crippled Children and Adults lies in the hands of a State Medical Advisory Committee, which names the medical staff of orthopedists, pediatricians, ENT specialists, and psychiatrists. The Medical Advisory Committee operates in cooperation with the Colorado State Medical Society.

ROY A. DAVIDSON, Executive Director.

MEDICAL ADVISORY COMMITTEE:
ATHA THOMAS, M.D., Chairman, Denver,
IRVIN E. HENDRYSON, M.D., Denver,
JAMES STEWART, M.D., Fort Collins,
RICHARD, MELLON, M.D., Colorado Springs,
J. SIMS NORMAN, M.D., Pueblo.

BLUE CROSS and BLUE SHIELD

An interesting excerpt:

"This is the Tenth Annual Meeting of the Colorado Medical Service, Inc., and in a few months your Blue Shield Plan will have concluded a decade of service to the enrolled members in Colorado. It seems appropriate that at this time we review the record from May 1, 1942, to January 1, 1952.

Total Income	$13,830,775.96	100.00%
Total Benefit Payments	11,379,662.40	82.28%
Total Administrative Expenses	1,298,649.11	9.39%
Total Unassigned Subscriber Reserve	1,152,538.10	8,33%

"During the period that the above record was established for Blue Shield members, other activities have been conducted by Colorado Medical Service, Inc. at the request of the Colorado State Medical Society and as a service to the participating physicians in their care of Colorado veterans. From January 1, 1947, to January 1, 1952, the Home Town Veterans' Care Program service record was as follows:

Number of Veterans Treated	10,158
Number of Physicians Participating in Program	634
Total Payments for Care Rendered	$501,065.78

"Reserve recommendations for Blue Shield Plans have been set at five times a Plan's monthly income or seven times a Plan's monthly benefit expense, whichever is the greater. On this basis, Colorado Medical Service, Inc., should have slightly more than $1,300,000 in its unassigned reserve. At the end of December, 1951, Colorado Medical Service, Inc., was approximately $175,000 short of this goal.

"However, Colorado Medical Service, Inc., is in a reasonable position, both from the standpoint of benefit return and reserve, when viewed in relation to the position of other Blue Shield Plans in our same size group."

WYOMING
State Medical Society

Auxiliary

We are happy to announce that the Woman's Auxiliary to the Wyoming State Medical Society placed third in the Today's Health Contest. We are also happy to welcome a new Auxiliary in the state. Recently the wives of members of the Fremont County Medical Society met to form a Woman's Auxiliary. They now have eight members with Mrs. E. L. Sonnenschein as President.

The Woman's Auxiliary to the Goshen County Medical Society are doing what they can to aid the hospital in Torrington. At their last meeting they subscribed to Holiday and Reader's Digest magazines for the patients' sunroom.

The Woman's Auxiliary to the Laramie County Medical Society was pleased to receive word that they had won second prize in Group III of the Today's Health Contest. Mrs. Wilbur Mylar served as chairman of the Today's Health Committee. On March 17 this group entertained the wives of doctors at Warren Air Base and the Cheyenne dentists' wives at a tea. During the afternoon the film, "Breast Self-Examination," released by the American Cancer Society, was shown, and Dr. John Gramlich, President of the Wyoming Division of the American Cancer Society, spoke briefly to the group on the same subject.

MRS. F. D. YODER.

Obituary

FREDERICK LOUIS BECK

Dr. Frederick Louis Beck, Cheyenne, Wyoming, died January 8, 1952, aged 80, due to coronary thrombosis. Dr. Beck was born in Otterville, Illinois, April 13, 1871. His family homesteaded in eastern Nebraska in 1872. His first vocation was that of teacher, turning to the study of medicine at the age of 22. He graduated from the School of Medicine of the University of Nebraska in Omaha in 1903 and engaged in general practice in Nebraska the next fourteen years after taking postgraduate work at Chicago and Omaha in the office of Dr. Harold Gifford.

Dr. Beck moved to Cheyenne, Wyoming, in 1920 and devoted his entire time to ophthalmology and otolaryngology. Served as President and Secretary of his County Medical Society in Nebraska; President and Secretary to the Laramie County Medical Society; President and Secretary of the Memorial Hospital staff; President of the Colorado Otolaryngological Society, and President of the Wyoming State Medical Society. He was also a Fellow of the American Medical Association, of the American Academy of Ophthalmology and Otolaryngology and the American College of Surgeons.

Dr. Beck is survived by his wife, five of the six children born of this union, two brothers and nine grandchildren.

A CLINICAL DAY FOR PHYSICIANS INTERESTED IN CHILDREN'S DISEASES

Sponsored by St. Francis Hospital and the University of Colorado School of Medicine.

At St. Francis Hospital, Colorado Springs, Colorado
May 21, 1952

MORNING

9:00—Registration.
9:30—"ACTH and Cortisone Therapy in Rheumatic Heart Disease"—E. L. Timmons, M.D., Colorado Springs, Colorado; James Flett, M.D., Department of Pediatrics, University of Colorado.
10:30—"Convulsive Disorders in Children"—Paul DuBois, M.D., Colorado Springs, Colorado; Milton Shy, M.D., Department of Medicine, University of Colorado.
11:30—"Peptic Ulcer in Children"—Kenneth Dumars, M.D., Colorado Springs, Colorado; Vernon Bolton, M.D., Radiologist, St. Francis Hospital, Colorado Springs, Colorado.
12:45—Luncheon at St. Francis Hospital.

AFTERNOON

2:00—"Blood Dyscrasias"—D. Joseph Judge, M.D., Colorado Springs, Colorado; Harold Palmer, M.D., Medical Director, Children's Hospital, Denver, Colorado.
3:00—"Diagnosis and Treatment of Congenital Syphilis"—Mary S. Goodwin, M.D., Consultant, Public Health Service, Federal Security Agency.
4:00—"The Family Doctor and Congenital Heart Disease"—James Watson, M.D., Chief of Pediatrics, St. Francis Hospital, Colorado Springs, Colorado; Gilbert Blount, M.D., Department of Medicine, University of Colorado.

UTAH
State Medical Association

SEVENTH ANNUAL MEETING OF THE OGDEN SURGICAL SOCIETY

The Ogden Surgical Society is pleased to announce the scientific program for the seventh annual meetings to be held May 21, 22 and 23, 1952.

Place: Ogden, Utah. The scientific meetings will be held at the Orpheum Theater.

Program: The following doctors have been obtained as guest speakers: John M. Adams, Los Angeles, California; Albert H. Aldridge, New York City; J. Garrett Allen, Chicago, Illinois; O. T. Clagett, Rochester, Minnesota; John M. Cline, President of the American Medical Association, San Francisco, California; Alfonso de la Pena, Madrid, Spain; John L. Emmett, Rochester, Minnesota; Frank Gerbode, San Francisco, California; C. F. Kemper, Denver Colorado; Brien King, Seattle, Washington; J. Vernon Luck, Los Angeles, California; Herbert Z. Lund, Cleveland, Ohio; Walter C. MacKenzie, Alberta, Canada; Raymond W. McNealy, Chicago, Illinois; Alton Ochsner, New Orleans, Louisiana; I. S. Ravdin, Philadelphia, Pennsylvania; Kenneth C. Sawyer, Denver, Colorado, and Eugene A. Stead, Jr., Durham, North Carolina.

Wednesday evening, May 21, an informal party will be held for all who have registered and their wives. Social events will be arranged for the ladies in attendance.

Make hotel reservations at once through the chairman of the Registration Committee, Dr. L. D. Nelson, 410 Eccles Building, Ogden, Utah. We urge you to attend this outstanding meeting.

Tuberculosis Abstracts

Issued Monthly by the National Tuberculosis Association

Vol. XXV APRIL, 1952 No. 4

AN OUTBREAK OF RESPIRATORY TUBERCULOSIS IN A SCHOOL

By R. T. Bevan, M.D., P. T. Bray, M.D., and J. F. Hanly, M.D., British Medical Journal, October 6, 1951.

Tuberculosis is frequently cited as an example of a disease which could be combated more effectively if a closer liaison existed between the hospital, general practitioner, and preventive medicine services. The localized outbreak to be described is therefore not only of clinical but also of medical administrative interest.

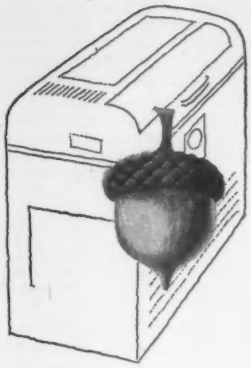
The first intimation of this outbreak followed an observation by the pediatrician who was investigating three cases of clinical primary respiratory tuberculosis in a hospital and had made domiciliary visits to two similarly affected children. Noting that they all came from the same area, he informed the County Medical Officer on July 15, 1950. It was quickly confirmed that all the affected children attended the same school, and the school became the center of investigations. Inquiries revealed that a member of the teaching staff had been absent from May 23 to June 26 suffering from laryngitis, but on July 17, when the school was visited by the Deputy County Medical Officer, this teacher was again absent, this time with "haemoptysis," which had occurred on the previous Friday. In due course the diagnosis of respiratory tuberculosis was confirmed. There was no common supply of milk at the homes of the affected children. The school milk supply was pasteurized.

Future action was decided at a meeting of the pediatrician, the local chest physician, and the County Medical Officers. A letter sent to all parents asked their consent to carry out Mantoux skin tests on the children at the school. All children who were absent from school were investigated. Of the 186 children in the school 176 were tested immediately. This excellent cooperation of the parents reflects their keen interest in the welfare of their children. Those found to be Mantoux-positive were x-rayed. The results of the tests and examinations are shown in Table 1. Mantoux testing consisted in the intradermal injection of 0.1 ml. 1/10,000 old tuberculin followed by 0.1 ml. 1/100 in the negatives.

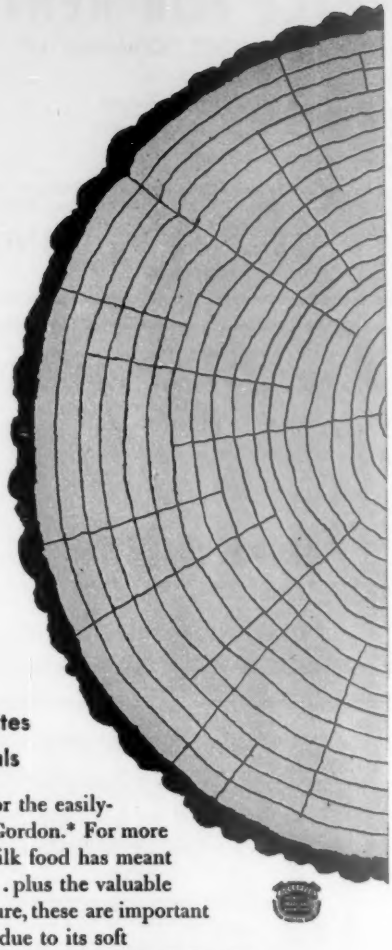
TABLE 1
Results of Mantoux and X-ray Tests at Beginning of Investigation, Classified by School Guide: July, 1950

Class	Age range	No. tested	Mantoux reactors No.	Mantoux reactors Per cent of total	Number showing X-ray evidence of tuberculosis
Total		176	52	30	8
Infants	5- 7	48	13	27	4
Classes I and II	6- 9	31	8	26	1
Class III	8-11	26	12	46	2
Class IV	9-12	33	8	24	1
Forms I & II (Secondary)	11-14	38	11	29	—

The school-teacher who was now the suspected source of infection was in charge of Class III. Why, then, should the infants' class show the greatest incidence of cases with x-ray evidence of tuberculosis? The explanation was apparent when it was discovered that this teacher was in charge of the infants' class from



for
the
maturing
of the
premature



DRYCO

A dehydrated milk-food
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*Gordon, Harry H.: Feeding of Premature Infants, American Journal of Diseases of Children 73:713 (June) 1947.

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May 8 to 12 owing to the temporary absence of the infants' class teacher.

The return to teaching duties following the initial period of sickness was unfortunate, since it was probable that further children were infected during this period. It was essential, therefore, to repeat the routine tests when the children returned to school after their summer vacation, as by that time the Mantoux test would have had time to show conversion. The local general practitioners were kept fully informed of the position, so that when children presented suspicious symptoms they were referred immediately to the local chest clinic. During the school vacation additional cases were brought to light in this manner.

One of the difficulties was to avoid undue alarm, and the parents were given an opportunity to be present at a meeting in the school. This diminished the natural anxiety and was a means of health education of the general public.

In November all those children who were Mantoux-negative in July or who had not been previously tested were asked to submit to investigation. With few exceptions the parents were prepared to cooperate. The results obtained are shown in Table 2 which emphasizes the abnormal picture of Class III—the class whose teacher had developed pulmonary tuberculosis.

In all twelve children who showed evidence of clinical tuberculosis the treatment consisted only of rest in bed, at home or in hospital, with clinical and radiological supervision. Streptomycin was not given.

All the teaching and non-teaching staff of the school immediately volunteered to undergo x-ray examinations, and, apart from the affected teacher, none showed evidence of active tuberculosis.

This local outbreak is an example of the danger that a teacher suffering from pulmonary tuberculosis can be to school-children. The favorable outcome does not detract from the need for periodic compulsory x-ray examinations. Pulmonary tuberculosis, however, may be rapidly progressive in a young adult and annual examinations may not be a sufficient safeguard. Six-monthly routine examinations may be necessary to prevent outbreaks such as the one described.

TABLE 2

Results of Mantoux and X-ray Tests at Completion of Investigation, Classified by School Grade: November, 1950

Class	No. tested	Mantoux reactors No.	Mantoux reactors Per cent of total	Number showing X-ray evidence of tuberculosis
Total	184	69	38	12
Infants	49	15	31	4
Classes I and II	33	12	36	1
Class III	28	21	75	6
Class IV	34	8	24	1
Forms I and II (Secondary)	40	13	33	—

The histories suggest an incubation period between the limits of forty and sixty-two days.

Summary

Five cases of clinical primary respiratory tuberculosis were reported in pupils of the same school. The probable source of infection was traced to a school-teacher. Immediate Mantoux and x-ray testing revealed three further cases. The return of the teacher concerned to school after a short period of absence necessitated a follow-up examination of the pupils, and four further cases were brought to light. The classes predominantly affected were those with which the teacher had come into closest contact.

The Book Corner

New Books Received

Inhalation Anesthesia: A Fundamental Guide: By Arthur E. Guedel, M.D., Associate Clinical Professor of Surgery (Emeritus), University of Southern California School of Medicine; Second Edition. The Macmillan Company, New York, 1951.

Sex and the Law: By Morris Ploscowe. Prentice-Hall, Inc., New York.

Statistics for Medical Students and Investigators in the Clinical and Biological Sciences: By Frederick J. Moore, M.D., Associate Professor of Experimental Medicine, University of Southern California School of Medicine; and Frank B. Cramer, B.A., Research Fellow; and Robert G. Knowles, M.S., Research Associate, Department of Experimental Medicine, University of Southern California School of Medicine. The Blackiston Company, New York, Philadelphia, Toronto, 1951.

Life Insurance Medical Research Fund: Sixth Annual Report, July 1, 1950, to June 30, 1951. New York Academy of Medicine Building, 2 East 103d Street, New York.

The Rockefeller Foundation Directory of Fellowship Awards for the Years 1917-1950: With an Introduction by Chester I. Barnard, President of the Foundation, 49 West 49th Street, New York, New York.

Clinical Allergy: A Practical Guide to Diagnosis and Treatment: By Samuel J. Taub, M.D., F.A.C.P., Professor of Medicine and Chairman of the Department of Allergic Diseases, the Chicago Medical School; Professor of Medicine, Cook County, Columbus, and Mt. Sinai Hospitals. Second Edition, Revised and Reset. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers.

Fluid Balance, A Clinical Manual: By Carl A. Moyer, M.D., Professor of Surgery, Washington University School of Medicine, St. Louis. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago.

Essentials of Histology: By Margaret M. Hoskins, Ph.D., and Gerrit Bevelander, Ph.D., New York University; with 135 Text Illustrations and Two-Color Plates. Second Edition. St. Louis: The C. V. Mosby Company, 1952.

Doctors in Blue, The Medical History of the Union Army in the Civil War: By George Worthington Adams. Henry Schuman, New York.

Dynamic Psychiatry, Basic Principles, Volume One: By Louis S. London, M.D. Corinthian Publications, Inc., New York 16, New York.

Standard Nomenclature of Diseases and Operations: By Richard J. Plunkett, M.D., Editor, and Adaline C. Hayden, R.R.L., Associate Editor. Published for The American Medical Association. Fourth Edition. The Blakiston Company, New York, Philadelphia, Toronto, 1952.

Symposium on Shock: Held at the Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington 12, D. C., on May 7-9, 1951.

The Clinical Use of Fluid and Electrolyte: By John H. Bland, M.D., Assistant Professor of Medicine, University of Vermont College of Medicine. Illustrated. W. B. Saunders Company, Philadelphia, London, 1952.

Diagnostic Bacteriology, A Textbook for the Isolation and Identification of Pathogenic Bacteria: By Isabelle Gilbert Schaub, A.B., Technical Director, Clinical Bacteriology Laboratories, The Johns Hopkins Hospital; Instructor in Bacteriology, The

Johns Hopkins University School of Medicine and the Nurses Training Schools, The Johns Hopkins Hospital and Sinai Hospital. And M. Kathleen Foley, M.A., Instructor in Bacteriology, Department of Biological Sciences, College of Notre Dame of Maryland; formerly Bacteriologist in Charge of the Diagnostic Bacteriological Laboratory of the Medical Clinic, The Johns Hopkins Hospital. Fourth Edition. St. Louis: The C. V. Mosby Company, 1952.

A Textbook of Orthopedics, With a Section on Neurology in Orthopedics: By M. Beckett Howorth, M.D., Clinical Professor of Orthopedic Surgery, New York University Postgraduate Medical School; formerly, Assistant Clinical Professor of Orthopedic Surgery, College of Physicians and Surgeons, Columbia University; Associate Attending Surgeon, New York Orthopedic Hospital. In Association with Fritz J. Cramer, M.D.; Walter A. Thompson, M.D.; A. Wilbur Duryee, M.D.; Donovan J. McCune, M.D.; J. William Littler, M.D. Illustrated. W. B. Saunders Company, Philadelphia and London.

Rheumatic Diseases, Based on the Proceedings of the Seventh International Congress on Rheumatic Diseases: Prepared by the Committee on Publications of the American Rheumatism Association, Charles H. Slocumb, M.D., Chairman; Howard F. Polley, M.D.; William D. Robinson, M.D.; Richard T. Smith, M.D.; Charles Ragan, M.D.; Edward F. Rosenberg, M.D.; Carlos Sacasa, M.D. Illustrated. W. B. Saunders Company, Philadelphia, London, 1952.

Rx for Medical Writing, A Useful Guide to Principles and Practice of Effective Scientific Writing and Illustration: By Edwin P. Jordan, M.D., and Willard C. Shepard, Quidquid Praecipies Esto Brevis. W. B. Saunders Company, Philadelphia, London, MCMLII.

Book Reviews

Immunology: By Noble Pierce Sherwood, Ph.D., M.D., F.A.C.P., Professor of Bacteriology, University of Kansas, and Pathologist to the Lawrence Memorial Hospital, Lawrence, Kansas; Third Edition; Illustrated. St. Louis: The C. V. Mosby Company, 1951. Price, $8.00.

A textbook on Immunology that has gone through three revisions—1935 through 1951.

This most exhaustive treatise gives attention to all the newer ramifications of the field of immunology. New blood groups, latent infection, mechanism of viral infection and new concepts relative to the role of vitamins and endocrines to resistance are considered.

The author gives lengthy references for all opinions expressed, and thus many times does not come to any definitive conclusion on the point at issue. This approach makes the textbook more of a reference work for advanced students of immunology.

WARD L. CHADWICK, M.D.

From a Doctor's Heart: By Eugene F. Snyder, M.D.; with a foreword by Paul Dudley White, M.D., Philosophical Library, New York.

Only a cardiologist is capable of evaluating the medical and therapeutic advice offered by Dr. Snyder, but to a semi-lay reader his book seems to be one which could well be given to an intelligent patient suffering from coronary heart disease. Beside the comfort it offers for such a patient in the hope of recovery and longer span of life, it is an intriguing book because of the author's attitude toward world affairs. As Dr. White says in the foreword, "This book written by a physician who has suffered many things is a token of the stoutness and resilience of the human spirit."

The reviewer happened to read Dr. Snyder's book immediately after "Opus 21" by Philip Wylie and was struck by the similarity of thinking of the two authors with such divergent backgrounds. Compare Wylie's "Of all freedoms and

privileges the right to be different and to think differently is the most precious that democracy can give," with Dr. Snyder's "Freedom—that precious necessity—is actually freedom for the mind. There is no other pure liberty—what we call liberty in America is the right to know and to change."

Whether one is a physician or not, whether one has coronary heart disease or not, this is a book which provides solid intellectual relaxation. The illustrations are an excellent accompaniment to the text and show subdued humor.

MINDELL W. STEIN.

Standard Code of Parliamentary Procedure: By Alice F. Sturgis. McGraw-Hill Book Company, Inc. 1950.

While this book has 268 pages, the size is such that the volume can be readily carried around for rapid reference work.

The Advisory Committee not only consists of eminent jurists, but also of people who are board chairmen of some of the larger corporations in the country.

Two things make this book outstanding: The first is a ready reference table on the inside front cover which outlines what can be done with different kinds of motions. The second consists of examples of different parliamentary procedures. The latter is of great benefit to those people, who like your reviewer, require a picture to be drawn.

On the whole, this is a much more usable volume than other similar attempts such as the old favorite, "Robert's Rules of Order."

GEORGE R. BUCK, M.D.

Clinical Pediatric Urology: By Meredith Campbell, M.S., M.D., F.A.C.S.; Professor of Urology, New York University Post-Greduate Medical School; Visiting Urologist, Bellevue and University Hospitals, New York. **With a Section on Nephritis and Allied Diseases in Infancy and Childhood:** By Elvira Gottsch, A.B., M.D.; Associate Professor of Pediatrics, University of Southern California School of Medicine, and Assistant Medical Director of the Children's Hospital Society of Los Angeles; and John D. Lyttle, A.B., M.D., Late Professor of Pediatrics, University of Southern California School of Medicine, and Medical Director of The Children's Hospital Society of Los Angeles. W. B. Saunders Company, Philadelphia and London, 1951.

Dr. Campbell is well known for his years of extensive work and writings in this field. His two volumes, published in 1937, are classics. This new book incorporates the recent developments and additions to the therapeutic armamentarium, both in medications and surgical procedures. The subject matter is illustrated by numerous drawings, photographs and roentgenograms which enrich a very clearly written comprehensive text.

There are fourteen chapters with a well-selected bibliography after each one. The subject material covers methods of examination and diagnosis, urinary obstructions, infections, the male genital tract and female urethra, injuries, calculous disease, tumors, the adrenals, neuromuscular uropathy, eneuresis, surgery and operative procedures. The final chapter by Dr. Elvira Goettsch and Dr. John D. Lyttle is titled "Nephritis and Allied Diseases in Infancy and Childhood."

This book is especially recommended to the urologist and pediatrican. Any practitioner who desires information pertaining to urological conditions in infancy and childhood will find this volume very valuable.

ISADORE GERSH, M.D.

Handbook of Pediatric Medical Emergencies: By Adolph G. DeSanctis, M.D., Professor of Pediatrics and Chairman of the Department of Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Director of Pediatrics, University Hospital, New York University-Bellevue Medical Center; Director of Pediatrics, Gouverneur Hospital, New York City; and Charles Varga, M.D., Instructor in Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Assistant Attending Pediatrician, University Hospital, New York University-Bellevue Medical Center; Assistant Visiting Pediatrician, Gouveneur Hospital, New York City; with fifty-one illustrations. St. Louis: The C. V. Mosby Company, 1951. Price, $5.00.

Eleven physicians, in addition to the authors, contributed to this little book on the management of pediatric emergencies. The amount of information assembled in less than 300 pages is impressive.

There are chapters on cardiovascular, gastrointestinal, genitourinary, neurological and respiratory emergencies. Examples of conditions dealt with are acute toxic diarrhea, anuria, convulsions, head injury, diabetic coma and resuscitation of the newborn infant. In the section on diarrhea, the detailed description of solutions used in the replacement and maintenance of body fluids and electrolytes is of value in bringing out the more recent developments in this field.

The treatment of poisoning by drugs and by ingredients found in household articles is discussed step by step. In addition, the appendix lists the poisons contained in approximately 500 commercial products; this should be of aid to the physician who is plagued with trying to find out the contents of everything from "Ant-B-gon" to "X-It Rat & Mouse Poison."

There is a brief chapter on the care of the premature infant. Another describes most of the common procedures used in pediatric diagnosis and treatment, illustrated by many excellent photographs and drawings.

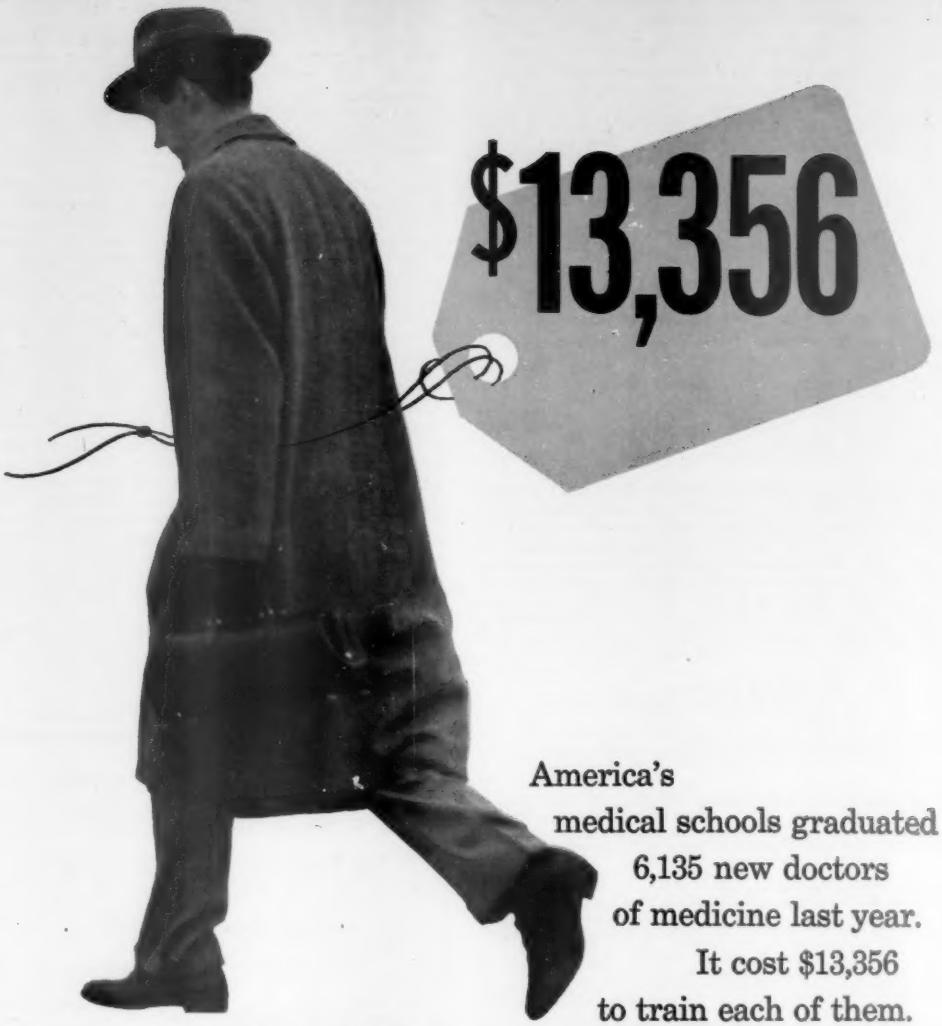
The emphasis is on therapy; however, in certain of the less common conditions, the important symptoms and signs are reviewed as an aid in diagnosis. Adequate references are made to the standard pediatric journals and textbooks.

Criticisms of the book are of a minor nature. The Schaefer Prone Pressure and the Eve Rocking methods of artificial respiration, described in the chapter on drowning, may be supplanted if the "hip-lift" method, recently developed at the University of Illinois, proves as valuable as preliminary reports would indicate. The proof reading was not up to standard and the conflict between the metric and the apothecaries' systems still causes confusion. However, the errors detract little from the concise presentation of a wealth of material, printed in large type. The book should gather little dust in the hands of any physician called on to treat children.

PAUL RHODES, M.D.

Clinical Tropical Medicine: By R. B. H. Gradwohl, M.D., Editor-in-Chief; Luis Benitez Soto, M.D., Oscar Felsenfeld, M.D., Editors; with 473 illustrations and six color plates. St. Louis: The C. V. Mosby Company, 1951. Price, $22.50.

Clinical Tropical Medicine, by Gradwohl, Benitez Soto and Felsenfeld, is a very fine addition to the works on tropical medicine, in that it is the compilation of forty-seven different authors of varied nationalities, and even more varied experience. Some of the manuscripts were written in other languages than English and were of necessity translated for this text. The entire work of 1,600 pages, much of which is in small print, carries a wealth of detail regard-



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ing the varied aspects of medicine as practiced in the tropics. While attention is paid to treatment, more of it is given to the laboratory aspects of diagnosis. In my opinion it would be of immense value to a physician going into the tropics for the first time, and encountering the, to us, bizarre diseases endemic in the heat, dampness, and lack of sanitation that is characteristic of much of the tropics. The text is liberally illustrated and an exhaustive bibliography is given at the end of each subject. The bibliography following the chapter of Rickettsioses, for example, contains some 600 references. The boldface headings of the different sections add to the ease of locating the particular section or phase in which the reader is interested.

DOUGLAS R. COLLIER, M.D.

A Textbook of X-Ray Diagnosis: By British Authors, in four volumes. Second edition. Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London; and Peter Kerley, M.D., F.C.R.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. Volume 1 with 439 illustrations. W. B. Saunders Company, Philadelphia and London, 1951.

Since the publication of the first edition, this work has come to occupy an important place in the field of radiology and is well known for reference. Much knowledge has been added in the field of diagnostic radiology in this decade. New ideas have evolved and old misconceptions have been discarded. The size of the work has been increased, rearranged, and a fourth volume added. The volumes are now divided into The Head and Neck, The Chest, The Abdomen and The Bones and Joints.

Volume I which is reviewed here is divided into five parts. Each is written by a separate author and each part could be considered a monograph. Part I, The Central Nervous System, is covered by Sir Hugh Cairns, with adequate space given to radiographic technic and pathology. Illustrations are plentiful and clearly labeled. The reproductions remain of the positive variety as in the first edition, but negative illustrations as used in film reproductions in most American literature would have been an improvement. However, the addition of a small illustrative sketch with some of the x-ray reproductions is a valuable device for clarifying that particular figure. Ventriculography and encephalography are thoroughly covered, as is cystography (the injection of air in cysts of the brain as they are emptied). There are illustrations of brain abscesses rendered radiopaque by injection of 2 c.c. of thorotrast, along with penicillin, after the pus has been removed by tapping. This reveals all of the ramifications of the abscess and if more than one locus is present, it can be demonstrated. Cerebral angiography is thoroughly discussed and illustrated. Various intracranial tumors are described and classified. The description of pituitary tumors is particularly clear and concise. The radiographic features of the various diseases and injuries of the skull and spinal cord are illustrated. Part I covers 242 pages, more than half the volume.

Part II, devoted to the teeth and jaw, is written by H. M. Worth. This has chapters on the normal teeth and jaws, unerupted and supernumerary teeth, inflammatory disease of the periodontal membrane and alveolus, injuries to

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the teeth and jaws, cysts and tumors of the teeth and jaws and inflammatory and other diseases of the jaws. In all, the subject is clearly covered and the illustrations are numerous and instructive.

Part III, entitled The Eye, is by R. G. Reid. The most valuable part of this section is the clear description of the various methods of localization of foreign bodies.

Part IV, The Accessory Nasal Sinuses, is by Sir Harold Graham-Hodgson. The first part of this section is devoted to general considerations, anatomy, physiology and pathology, followed by etiolgoy of inflammatory diseases of the sinuses and radiographic technic. It is in sufficient detail to be of considerable value to the radiologist and technician. The use of iodized oil in the diagnosis of nasal sinus disease is described. The section is concluded by a chapter on radiological interpretation. The bibliography is omitted at the end of this section, although there is a rather complete bibliography at the end of each of the other sections.

Part V is entitled The Temporal Bone and is also by Sir Harold Graham-Hodgson. Basic facts are given as in Part IV and later there is a good description of the physiology of hearing. Various disease entities are classified and described. Radiographic technic is given in detail and finally the radiological interpretation of the various conditions.

This volume should continue to be a valuable reference book, not only to the radiologist, but also to other specialists who deal especially with the head and neck.

PAUL E. RePASS, M.D.

A Textbook of X-ray Diagnosis in Four Volumes: Edited by S. Cochrane Shanks, M.D., Director of X-ray Diagnostic Department, University College Hospital, London; and Peter Kerley, M.D., Director of X-ray Department, Westminster Hospital, and Radiologist to Royal Chest Hospital, London. Second edition, Volume III, "Abdomen," with 649 illustrations. Philadelphia and London: W. B. Saunders Company, 1950.

The subject material of x-ray diagnosis is divided in this second edition into a volume on the head and neck, the chest, the abdomen, and the bones and joints:

The third volume dealing with the x-ray diagnosis of the abdomen is arranged into the following subdivisions: The Alimentary Tract, The Biliary Tract, Abdomen, Obstetrics, Gynecology, and the Urinary Tract.

Each subdivision is written by or with the help of distinguished radiologists or clinicians in these various branches in order to make the work more authoritative, and of greater value to the postgraduate student of radiology and to the clinician. Good negative illustrations are utilized whenever possible to aid in the description of the more common lesions met with in radiological practice.

The alimentary tract is considered under the sections of the salivary glands; pharynx and esophagus, stomach, duodenum and diaphragm; small intestine, appendix and large intestine; with a separate section on the special problems encountered in the examination of the alimentary tract in infants and children. Only the essential details of technic are included.

The anatomy, physiology, technic of examination, and various pathological conditions of the biliary tract are well discussed and illustrated in Part 2 of this volume. A rather elaborate technic is described for studying the complete cycle of filling, concentration, contraction, and emptying of the gallbladder.

Part 3 deals with the diagnosis of various diseases of the liver, spleen, adrenals and pancreas.

The radiological study of the antenatal fetus and obstetric pelvis is discussed and illustrated in Part 4 together with a description and analysis of the many technics of pelvimetry, cephalometry, and pelvoradiography. Short sections are included on the radiological determination of placental site and the urinary tract in pregnancy.

The methods of radiological investigation used in gynecological radiology are described in Part 5 and the radiological examination of the urinary tract is considered in Part 6.

The book for the most part is well written, and as up-to-date as possible on this rather broad subject material. It should be of value both as a text in postgraduate teaching and as reference to the practicing radiologist and clinician.

JOHN H. FREED, M.D.

Principles and Practice of Therapeutic Exercises: By Hans Kraus, M.D., Assistant Clinical Professor of Rehabilitation and Physical Medicine, New York University College of Medicine. Published by Charles C. Thomas, Springfield, Illinois, U.S.A.

This book is dedicated to two outstanding former orthopedic surgeons at the Presbyterian Medical Center in New York City, Dr. William Darrach and Dr. Clay Ray Murray.

Fundamentally, this 309-page book was put out for physical therapists and those interested in rehabilitation. This book would be a worthwhile addition to any orthopedic surgeon's library but only as a reference book. People doing physical therapy, whether they be physiatrists or simply the physical therapists themselves or they may be only workers in spastic clinics or large physical therapy departments, would profit by owning this book and perusing through it

from time to time to check their results. I think that the author should be complimented on the fact that he not only has given us a book here which will tell you how to do certain exercises in order to develop muscles and groups of muscles but he tells why and that is the important thing nowadays. I think that the author has brought out the fact that therapeutic exercise is the foundation of rehabilitation and the reason for that is that all subsequent rehabilitation processes are built upon the residual physical disability which medical and surgical care cannot eliminate.

The author stresses in this book that exercises which are used to develop certain muscles should not belong to a certain system but rather the therapeutists or the physical therapists should be familiar with numerous systems so that having such knowledge at hand the type of exercise can be suited to the patient more than trying to suit the patient to a system of exercises. Even in therapeutic exercises some people tend to specialize and develop clinics for treatment of polio, cerebral palsy, postural correction, trauma, and so on, which is good, but they should still continue definite study and progress of therapeutic exercise as emphasized by this therapist. Doctors, therapists, rehabilitation workers want to know when an exercise is indicated and on what basis they should be prescribed. Also they would like to have a little more detail on how the exercise is carried out. This book gives that. For people interested in the various zones of the body, various groups of muscles or specific muscle power, their testing and their development, this book will be worthwhile to them. Various technics are given. It covers the treatment of painful muscle spasm. It tells how to write certain prescriptions for exercises and also speaks of the supportive prescriptions. There were some specific exercises that pertained to certain joint conditions, some that have to do with posture. The contraindications for certain exercises, those dealing with neck troubles, upper extremities, back, and the various portions of the body, are divided so that some specific recommendations can be made for these various departments. One chapter is devoted to the nervous system which helps the reader understand some of the problems pertaining to lesions of the spinal cord, periferal nerve injuries, multiple sclerosis, paraplegias and the like.

The book is well written, beautifully illustrated with typical pencil drawings and on heavy non-glazed paper with very excellent readable size print.

FOSTER MATCHETT, M.D.

Surgery of the Stomach and Duodenum: By Claude E. Welch, M.D., Associate Visiting Surgeon, Massachusetts General Hospital; Clinical Associate in Surgery, Harvard Medical School. Illustrated by Muriel McLatchie Miller. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago. Price, $8.50.

This small surgical textbook goes beyond the duodenum. It is essentially a compact, practical outline of technical procedures, consistent with accepted surgical and anatomical principles. It is obviously intended as the author suggests, to assist young surgeons, and for that matter, older ones, whose experience in surgery of the gastrointestinal tract is limited.

This is a well organized and well integrated textbook. The quality of this book is greatly enhanced by the artful presentation of clear illustrations.

The book is divided into twenty-one sections, including seventy-nine plates of illustrations. The author takes pains to outline the pre- and

postoperative treatment, the types of abdominal incisions and closures, including thoracic and thoraco abdominal incisions.

Such a well-condensed and clearly illustrated compendium should serve to clear up the confusion created by a profusion of appellations assigned to various surgical procedures, such as Billroth's I, Billroth's II, Polya, Finsterer, Hoffmeister, etc. It appears that these various operations produced a disagreement among surgeons themselves. The lack of understanding of the physiologic effects that any procedure might produce, no doubt, became the guiding indication for the particular procedure chosen.

This reviewer then feels that Dr. Welch wrote a brief, practical textbook, limiting surgical procedures to the more important and more frequently performed operations, and excluding the rarer operative procedures.

GERALD H. FRIEDMAN, M.D.

Oral Pathology: By Kurt H. Thoma, D.M.D., F.D.S., R.C.S. (Eng.), F.D.S., h.c. (Edin.), Professor of Oral Surgery, Emeritus, and Brackett Professor of Oral Pathology, Harvard University; Honorary Professor of the Odontologic Faculty, San Carlos University, Guatemala; Lecturer in Oral Surgery, Graduate School of Medicine, University of Pennsylvania; Member of Board of Consultation, Formerly Oral Surgeon and Chief of Dental Service, Massachusetts General Hospital; Oral Surgeon to Brooks Hospital; Consulting Oral Surgeon, New England Baptist Hospital, Beth Israel Hospital, Tumor Department of Boston Dispensary, New England Center Hospital, Faulkner Hospital; Consultant in Oral Surgery, U. S. Public Health Service, Marine Hospital, Boston; Consultant in Oral Surgery, Army Medical Center, and Consultant in Oral Pathology, Washington, D. C. 1,559 pages; 1,660 illustrations (78 in color). Published by C. V. Mosby Co., St. Louis, Missouri. Price, $17.50.

This is a belated report on the new third edition of the comprehensive book on dental-medical problems. It is a difficult book to evaluate, principally due to two reasons: first, its volume does not lend to ease of handling; second, its descriptions are in many cases at variance with the clinical evidence presented. Doctor Thoma does not need any praise as evident from the wide scope of writings and degrees. This review is intended as a constructive criticism, hoping that the book will appear in a different form.

The book, in this writer's opinion, would be of greater value if broken up into two or more volumes, properly indexed. The first portion of the book on experimental pathology could well be bound in a cover by itself. This part includes hereditary, endocrinal, and nutritional influences on teeth and their supporting structures, the anomolies and diseases of the teeth, and the diseases of the peridontal structures. This has appeared in the previous volumes, and this edition has contributed but little to the other edition.

The middle third of this edition deals mostly with anomolies and diseases of the head and jaws, with a specific section devoted to the abnormalities, and diseases of the temporomandibular articulation. Here, as elsewhere, throughout the book, the value of the tome would be of greater aid to the reader if the author was more specific in his statements, and would clarify some of the misunderstandings that the professions have to the relationship of the temporomandibular joint, and the contiguous structures.

The third portion of the book has its greatest value by its description of diseases of the mouth, salivary glands and the tumors of the jaw. Although profusely illustrated, many of the photographs are not clear in definition. With present-day methods, the publishers should reproduce the color illustrations in their actual relationship, as the reproductions are illusionary in that they do not carry the message they should.

The description of many of the malignant tumors are meager, in great contrast to the profuse articles in the first half of the book. However, Doctor Thoma is to be congratulated on his tremendous contribution to the professions in collecting and presenting this authorative information. The third edition of Oral Pathology is the best book of this type that we have. However, it would reach more members of the healing professions and render the reader a greater value if it was produced in not less than two, and probably three, volumes, properly indexed, better color reproductions and more specific in description of pathology.

HOBART H. PROCTOR, D.D.S.

Antibiotic Therapy: By Henry Welch, Ph.D., Director, Division of Antibiotics, Food and Drug Administration, Federal Security Agency of the United States Government. And Charles N. Lewis, M.D., Medical Officer, Division of Antibiotics, Food and Drug Administration, Federal Security Agency of the United States Government. Foreward by Chester S. Keefer, M.D., Wade Professor of Medicine, Boston University School of Medicine; Chairman, Committee on Medicine, and Chairman, Committee of Chemotherapy of the National Research Council. The Arundel Press, Inc., Washington, D. C.

During the past decade, the literature has been so deluged with information concerning antibiotics, that a physician, desiring knowledge of the new drugs, is presented with a Herculean task. Antibiotic Therapy is one of two recently published books to adequately and concisely summarize this subject.

This volume, though lengthy (542 pages), gives a biographical sketch of the discoverers, the iso-

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lation and development, the antimicrobial spectra, the toxicity, absorption and excretion of tyrothricin, penicillin, streptomycin, dihydrostreptomycin, aureomycin, bactracin, chloramphenicol and terramycin. The newer drugs, polymyxin, neomycin and viomycin, are briefly presented. The clinical uses, dosage regimens and results in individual diseases are discussed in considerable detail. A selected bibliography ends each chapter.

The entire medical profession should welcome the opportunity to read this book, which presents valuable information on the important uses and limitations of drugs that now constitute a large part of the practice of medicine.

MacDONALD WOOD, M.D.

Philosophy for the Common Man: By Heinrich F. Wolf. Copyright, 1951, by the Philosophical Library, Inc., 15 East 40th Street, New York 16, New York. Price, $3.50.

Actually the title of Dr. Wolf's book is misleading as it leads on to expect a simplification of philosophy for the "common man," whereas in reality, it is a commentary on Vaihinger's "The Philosophy of As-If." Fortunately for the author, he explains the seeming inconsistencies found between the covers of any book, because early in this one, he criticizes commentators in a derogatory manner. Also, although throughout the whole book he provides definitions of many terms he uses, he omits one very important one, namely, the common man. Evidently his concept of the common man differs from that of the reviewer who is certain that in spite of the definitions mentioned and some very lengthy explanations, the book is still too loaded with technical terminology, involved abstractions and unrelated quotations from philosophical writings to be for "the common man." For instance, how many common men understand words such as "immanent," "subsume," or "cybernetics?"

There are some good bits of writing such as the author's statement about expressing ideas clearly (page 43), the paragraph about an author's seeming inconsistencies (page 90), and the chapters on myths and religion. But in spite of these, one wonders why the book was written, or rather, why it was published. Certainly, a short article would have sufficed to point out the value of Vaihinger's work, and the two chapters mentioned would have reached a wider audience in a publication which caters to the "common" man.

MINDELL W. STEIN.

Bases of Human Behavior: A Biologic Approach to Psychiatry: By Leon J. Saul, M.D., Professor of Clinical Psychiatry, University of Pennsylvania School of Medicine; Psychiatric Consultant, Swarthmore College; Lecturer, Bryn Mawr College. Philadelphia, London, Montreal: J. B. Lippincott Company. Price, $4.00.

This book is presented as an exposition of the biologic basis of psychiatry and an introduction to the basic science of psychodynamics. It was written as a text for first-year medical students and the author feels it should be of interest to all who are interested in the fundamentals of psychological sciences of human nature. I would recommend it to the general practitioner.

The material is well organized and clearly presented with a minimum of psychiatric terminology. Psysiology, psychosomatic medicine and psychoanalytic theory are discussed.

Aside from a couple of different paragraphs in which the author indulges himself in the transposition of theoretical concepts from individual cases to political groups, he is entirely practical in his approach.

IRA T. HOWELL, M.D.

Principles and Practice of Obstetrics. Originally by Joseph B. DeLee, M.D.: By J. P. Greenhill, M.D., Attending Obstetrician and Gynecologist, The Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff, The Chicago Lying-In Hospital; Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine. Tenth Edition, with 1,100 illustrations on 864 figures, 194 in color. W. B. Saunders Company, Philadelphia and London. Price, $12.00.

In the latest edition of this time-honored text of obstetrics, Dr. Greenhill follows the very workable outline initiated by his successor, Dr. DeLee. The book is essentially divided into two parts. Part One is devoted to the physiology of reproduction, pregnancy, labor, and the puerperium; while Part Two deals with the abnormal or the "Pathology of Pregnancy, Labor, and the Puerperium."

The first three chapters deal with ovulation and conception, development of the ovum, and physiology of the fetus in a very practical manner, with emphasis on the clinical application of these basic factors. The author subsequently discusses quite thoroughly the management of the pregnant patient during the prenatal period and the chapter on "Symptoms and Signs of the Second and Third Trimesters" is quite unique.

The section on the Physiology and Conduct of Labor is supported by the addition of a new chapter devoted entirely to the uses and contraindications to the use of pituitary extract and ergot. The conduct of the puerperium is made current by a discussion of early ambulation and other modern hospital practices.

Part Two, that part devoted to the complications of pregnancy, is similar to earlier editions with introduction to new theories in the management of the toxemias and hemorrhage, with emphasis on fluid and electrolyte balances and more consideration for the patient's renal functions. There are many interesting and informative drawings and pictures in this part of the text which should be very valuable to the student.

The authors have again given the profession a complete textbook that can be used as a source of primary information to the student and also as an up-to-date means of reference or review for the practitioner.

C. HOUSTON ALEXANDER, M.D.

Physical Diagnosis: By Ralph H. Major, M.D., Professor of Medicine, The University of Kansas. Fourth Edition. Illustrated. W. B. Saunders Company, Philadelphia and London, 1951.

The book should be of great value to the medical student. It is instructive in showing how much can be detected by systematic and thorough physical examination, before or without turning to the more technical modern tests.

For the practitioner the book is easy reading for a review and reminder of important details.

The author—being historically minded—refers back to many books of the old masters in medicine, thus combining the original discoveries with present-day opinions. The many quotations make the reader feel how thoroughly the author knows his field.

The layout of the new edition is in principle the same as of the previous one, but new material and new illustrations have been added.

LOUISE M. FRANKENBURGER, M.D.

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